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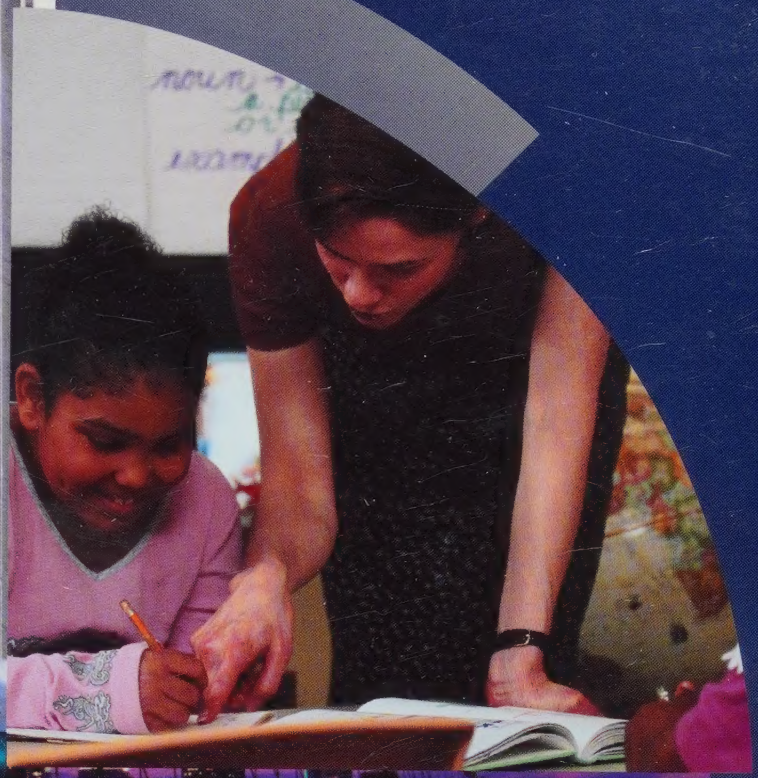

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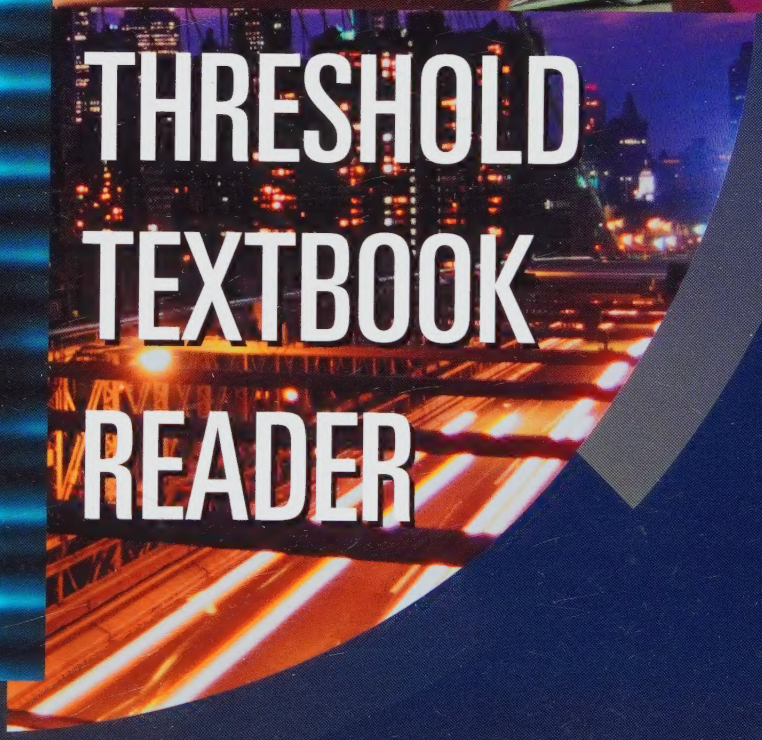

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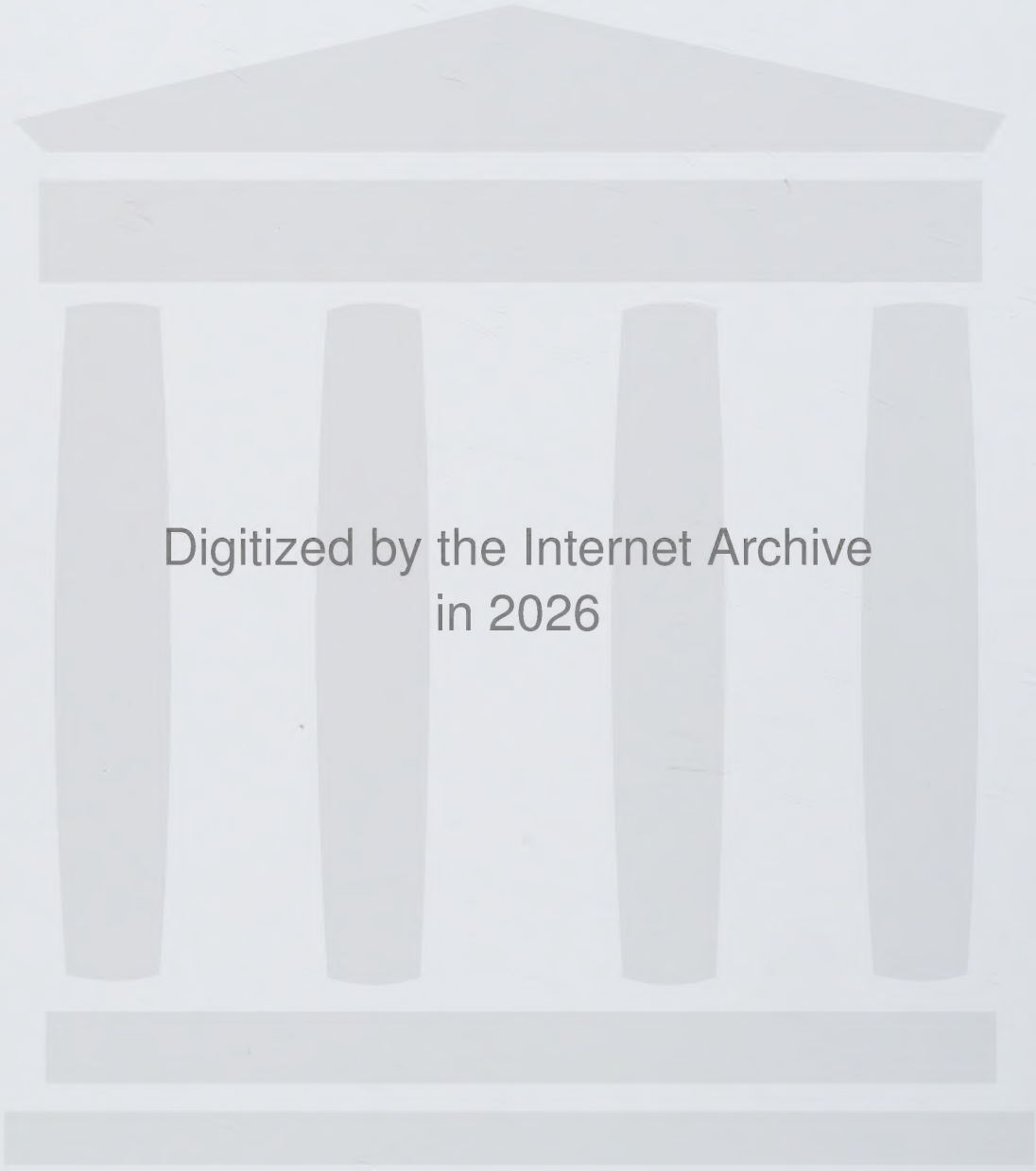
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KALEIDOSCOPE
READINGS IN EDUCATION

Ninth Edition

Kevin Ryan
Boston University

James M. Cooper
University of Virginia

Part One
Teachers

Being a teacher today has special drawbacks. It is difficult to be a teacher in an age that mocks idealism. It is difficult to be a teacher without the traditional authority and respect that came with the title in the past. To be a teacher in the midst of a permissive time in childrearing, when many students are filled with antiauthoritarian attitudes, causes special strains. It is punishing to work at an occupation that is not keeping up economically. It is painful to be part of a profession that is continually being asked to solve deep social problems and to do the essential job of educating children and then regularly criticized for its failings. A good case can be made for discouragement, even for self-pity.

This negativism, or at least acknowledgment of the negative, obscures the fact that teaching is one of the great professions. These passing conditions ignore the greatness that resides in the teacher's public trust. Many adults struggle with the question: Am I engaged in significant work? Teachers always know that they are engaged in crucial, life-shaping work.

9 Selecting "Star" Teachers for Children and Youth in Urban Poverty

Martin Haberman

No school can be better than its teachers. And the surest and best way to improve the schooling of the approximately 12 million children and youth in poverty is to get better teachers for them. The strategy for doing this is not mysterious and has been evolving for more than 35 years.

The premise of the strategy is simple: selection is more important than training. My calculated hunch is that selection is 80% of the matter. The reason is that the functions performed by effective urban teachers of students in poverty are undergirded by a very clear ideology. Such teachers not only perform functions that quitters and burnouts do not perform, but they also know why they do what they do. They have a coherent vision. Moreover, it is a humane, respectful, caring, and nonviolent form of "gentle teaching" that I have described elsewhere.[1] My point here is that teachers' behaviors and the ideology that undergirds their behaviors cannot be unwrapped. They are of a piece.

At the time this article was written, Martin Haberman was a Distinguished Professor in the School of Education, University of Wisconsin, Milwaukee. Martin Haberman, "Selecting 'Star' Teachers for Children and Youth in Urban Poverty," *Phi Delta Kappan*, June 1995. Copyright © 1995 by Phi Delta Kappa. Reprinted by permission of author and publisher.

Nor can this ideology be readily or easily taught in traditional programs of teacher preparation. Writing a term paper on Piaget's concept of conservation or sharing with other student teachers such problems as why Ray won't sit down will not provide neophytes with the ideological vision of "star teachers." This ideology, while it is open to development, must be selected for. What can be taught are the functional teaching behaviors that are built on the foundation of this belief system. And like the ideology, the teaching behaviors are not typically learned in traditional programs of teacher education but on the job, with the benefit of a teacher/coach, a support network, and some specific workshops.

There are four dimensions of excellence that programs claiming to prepare teachers for children of poverty can and should be held accountable for: 1) the individuals trained should be adults; 2) they should have demonstrated ability to establish rapport with low-income children of diverse ethnic backgrounds; 3) they should be admitted as candidates based on valid interviews that reliably predict their success with children in poverty; and 4) practicing urban teachers who are recognized as effective should be involved in selecting candidates.

My colleagues and I have identified three related truths that grow out of the recognition that selection is the heart of the matter where teachers for the urban poor are concerned: 1) the odds of selecting effective urban teachers for children and youth in poverty are approximately 10 times better if the candidates are over 30 rather than under 25 years of age; 2) there is no problem whatsoever in selecting more teachers of color, or more males, or more Hispanics, or more of any other "minority" constituency if training begins at the postbaccalaureate level; and 3) the selection and training of successful urban teachers is best accomplished in the worst schools and under the poorest conditions of practice.

This last truth requires some comment. States routinely give out teaching licenses that are deemed valid for any school in the state. The most reasonable basis for awarding such licenses would be to prepare teachers in the poorest

schools and assume they will be able to deal with the "problems" presented by smaller classes, more and better materials and equipment, and safer neighborhoods if they should ever be "forced" to teach in more advantaged schools. Traditional teacher education makes almost the reverse assumption: create professional development centers (the equivalent of teaching hospitals) and then assume that beginners will be able to function in the poverty schools to which city school districts typically assign them. "Best practice" should not be thought of as ideal teaching under ideal conditions but as effective practice under the worst conditions.

Functions of "Star" Urban Teachers

By comparing the behaviors and undergirding ideologies of "star" urban teachers with those of quitters and failures, my colleagues and I have identified 14 functions of successful teachers of the urban poor that are neither discrete behaviors nor personality attributes. Instead, these functions are "midrange" in the sense that they represent chunks of teaching behavior that encompass a number of interrelated actions and simultaneously represent beliefs or commitments that predispose these teachers to act. "Stars" are those teachers who are identified by principals, supervisors, other teachers, parents, and themselves as outstanding. They also have students who learn a great deal as measured by test scores and work samples. Between 5% and 8% of the staff members who now teach in urban poverty schools are such "star" teachers. The quitters and failures with whom their functioning is compared constitute a much larger group: 30% to 50%, depending on the particular district. In a continuing series of interviews with a population of star urban teachers every year since 1959, we have found that the 14 functions have remained stable. What has changed in some cases are the questions needed to elicit interviewees' responses related to these functions.

The structured interview we use has been developed to select beginning teachers who can be prepared successfully on the job. This means that they can function at satisfactory levels while they are learning to teach. The highest success rate for selecting such exceptional neophytes has been achieved by combining both the interview and the opportunity to observe the candidates interacting with and teaching children in the summer prior to their assuming the role of beginning teacher. When the interview is combined with such observation, there is less than a 5% error rate. Use of the interview alone raises the error rate to between 8% and 10%.

Compare these figures with the fact that approximately 50% of newcomers to urban schools who were prepared in traditional programs quit or fail in five years or less. And these "trained" beginners are only the very small, self-selected group who choose to try teaching in an urban school and not a representative sample of those currently being prepared to teach. It boggles the mind to imagine what the failure rate would be if a truly representative sample of those now graduating from traditional programs of teacher education were hired as first-year teachers in the largest urban school districts.

In the rest of this article, I will briefly outline the seven functions that the star teacher interview assesses (and the additional seven for which we have never been able to develop interview questions). In order for a candidate to pass the interview, he or she need not respond at the level of a star teacher. The interview predicts applicants' potential functioning from "average," through "high," to "star." A zero answer on any of the functions constitutes a failure response to the total interview. The interview is couched in behavioral terms; that is, it attempts to determine what the applicant would do in his or her class and why. (Readers should note that merely reading about these functions does not constitute preparation to conduct an interview.)

The Dimensions of Effective Teaching

1. *Persistence.* Many urban teachers honestly believe that most of their students (all in some cases) should not be in their classrooms because

they need special help; are not achieving at grade level; are "abnormal" in their interests, attentiveness, or behavior; are emotionally unsuited to school; or are in need of alternative schools, special classes, or teachers trained to work with exceptional individuals. In some urban districts and in individual urban schools many teachers perceive 90% of their students to be not "normal."[2]

Effective urban teachers, on the other hand, believe it is their responsibility to find ways of engaging all their students in learning activities. The continuous generation and maintenance of student interest and involvement is how star teachers explain their jobs to themselves and to others. They manifest this persistence in several ways. They accept responsibility for making the classroom an interesting, engaging place and for involving the children in all forms of learning. They persist in trying to meet the individual needs of the problem student, the talented, the handicapped, and the frequently neglected student who falls in the gray area. Their persistence is reflected in an endless search for what works best with each student. Indeed, they define their jobs as asking themselves constantly, "How might this activity have been better—for the class or for a particular individual?"

The persistence of star teachers demonstrates several aspects of their ideology: teaching can never be "good enough," since everyone could always have learned more in any activity; teaching inevitably involves dealing with problems and problem students, and such students will be in every class, every day; and better materials and strategies can always be found. The basic stance of these teachers is never to give up trying to find better ways of doing things. The quip attributed to Thomas Edison, "The difference between carbon and diamonds is that diamonds stayed on the job longer," might describe these teachers as well.

2. *Protecting learners and learning.* Star teachers are typically involved in some life activity that provides them with a sense of well-being and from which they continually learn. It might be philately, Russian opera, a Save the Wolves Club, composing music with computers, travel, or some other avocation from which they derive meaning as well as pleasure. Inevitably, they bring these activities and interests into their classrooms and use them as ways of involving their students in learning. It is quite common to find teachers' special interests used as foci that generate great enthusiasm for learning among the students. The grandiose explanation for this phenomenon is that people who continually experience learning themselves have the prerequisites to generate the desire to learn in others. A more practical explanation would be that we teach best what we care most about.

In any event, star teachers frequently involve their students in learning that transcends curriculum, textbooks, and achievement tests. Their commitment to turning students on to learning frequently brings them into noncompliance with the extremely thick bureaucracies of urban schools. Stars do not view themselves as change agents, per se, but they do seek ways to give themselves and their students greater latitude within the traditional curriculum.

Consider the following episode. The teacher has succeeded in truly involving the class in a learning activity. It might be an environmental issue (What happens to our garbage?); a biological study (How does a lie detector work?); or the production of a class play dealing with violence in the neighborhood. Imagine further that the intense student interest has generated some noise, the use of unusual equipment, or a need for extra cleaning of the classroom. The principal learns of the activity and requests that it be discontinued. The principal also instructs the teacher to stick with the approved texts and to follow the regular curriculum. At this point the lines are clearly drawn: continuing a genuine learning activity in which the students are thriving versus complying with the directive of a superior and following a school policy.

The way star teachers seek to work through such a problem is in direct opposition to the reaction of quitters and failures. Star teachers see protecting and enhancing students' involvement in learning activities as their highest priority;

quitters cannot conceive of the possibility that they would diverge from the standard curriculum or that they would question a school administrator or a school policy.

To the uninitiated, such struggles over red tape may seem atypical. Experienced star teachers, however, find themselves involved in a continuous, day-to-day struggle to redefine and broaden the boundaries within which they work. One reason they so often find themselves at odds with the bureaucracy of urban schools is that they persist in searching for ways to engage their students actively in learning. Indeed, their view that this is their primary function stands in stark contrast to the views of teachers who see their primary function as covering the curriculum.

Star teachers try to resolve their struggles with bureaucracy patiently, courteously, and professionally. They seek to negotiate with authority. Quitters and failures perceive the most professional response to be unquestioning compliance.

3. *Application of generalizations.* Some teachers have 30 years of experience, while others have one year of experience 30 times over. One basis for professional growth is the ability to generate practical, specific applications of the theories and philosophies. Conversely, successful teachers can also reflect on their many discrete classroom activities and see what they add up to. If you ask stars to give examples of some principle they believe in (e.g., "What would an observer see in your classroom that would lead him/her to believe that you believe all children can learn?"), they are able to cite clear, observable examples. Conversely, if a star is asked to offer a principle or make a generalization that accounts for a series of behaviors in which he or she engages, the star is equally able to move from the specific to the general.

The importance of this dimension is that teachers must be able to improve and develop. In order for this to happen, they must be able to take principles and concepts from a variety of sources (i.e., courses, workshops, books, and research) and translate them into practice. At the same time, stars can explain what their day-to-day work adds up to; they have a grasp not only of the learning principles that undergird their work but also of the long-range knowledge goals that they are helping their students achieve.

At the other extreme are teachers who are "concretized." They do not comprehend the difference between information and knowledge; neither do they see any connection between their daily lessons and the reasons why children and youth are compelled to go to school for 13 years. Indeed, quitters and failures frequently respond to the question, "Would you give an example of a principle in which you believe that guides your teaching?" with, "I don't like to generalize" or "It's wrong to make generalizations."

The ability to derive meaning from one's teaching is also a function of this ability to move between the general and the specific. Without this ability to see the relationship between important ideas and day-to-day practice, teaching degenerates into merely "keeping school."

4. *Approach to "at-risk" students.* Of all the factors that separate stars from quitters and failures this one is the most powerful in predicting their future effectiveness with urban children of poverty. When asked to account for the large numbers of at-risk students or to suggest what might be done about cutting down on the number of at-risk students, most teachers are well-versed in the popular litany of causes. The most common causes cited are poverty, violence, handicapping conditions, racism, unemployment, poor housing, lack of health care, gangs, drugs, and dysfunctional families. But while the quitters and failures stop with these, the stars also cite irrelevant school curricula, poor teaching, and overly bureaucratic school systems as additional causes.

Since quitters and failures essentially blame the victims, the families, and the neighborhoods, they do not come up with any measures that schools and teachers can or should take to improve the situation. Indeed, they say such things as "You can't expect schools to be all things to all people" or "Teachers can't be social workers, nurses, and policemen." Stars also see all the

societal conditions that contribute to students' problems with school. But they are able to suggest that more relevant curricula and more effective teaching strategies are things that schools and teachers could try and should be held accountable for. Star teachers believe that, regardless of the life conditions their students face, they as teachers bear a primary responsibility for sparking their students' desire to learn.

5. *Professional versus personal orientation to students.* Stars expect to find some youngsters in their classrooms that they may not necessarily love; they also expect to be able to teach them. Stars expect that some of their students will not necessarily love them, but they expect these students to be able to learn from them. They use such terms as caring, respect, and concern, and they enjoy the love and affection of students when it occurs naturally. But they do not regard it as a prerequisite for learning.

Quitters and failures, on the other hand, cannot and do not discriminate between the love of parents for their children and the love of teachers for their students. They regard such love as a prerequisite for any learning to occur. They also believe that the children should feel a similar sort of love for their teachers. Consequently, it is not uncommon for quitters and failures to become disillusioned about their work in poverty schools. Once they realize that the children do not love them or that they cannot love "these" children, they find themselves unable to function in the role of teacher. For many quitters and failures, this love between students and teachers was a major reason for seeking to become teachers.

Star teachers have extremely strong, positive feelings toward their students, which in many cases might be deemed a form of love. But these feelings are not the primary reasons that stars are teachers, nor are these feelings the basis of their relationships with their students. Indeed, when their students misbehave, star teachers do not take it as a personal attack. Neither do they maintain class order or inspire effort by seeking to instill guilt. Genuine respect is the best way to describe the feelings star teachers have for their students.

6. *Burnout: its causes and cures.* Star teachers in large urban school systems are well aware that they work in mindless bureaucracies. They recognize that even good teachers will eventually burn out if they are subjected to constant stress, so they learn how to protect themselves from an interfering bureaucracy. As they gain experience, they learn the minimum things they must do to function in these systems without having the system punish them. Ultimately, they learn how to gain the widest discretion for themselves and their students without incurring the wrath of the system. Finally, they set up networks of a few like-minded teachers, or they teach in teams, or they simply find kindred spirits. They use these support systems as sources of emotional sustenance.

Without such organizational skills—and lacking the awareness that they even need such skills—failures and quitters are literally beaten down by the system. The paperwork, the conflicting rules and policies, the number of meetings, the interruptions, the inadequate materials, the lack of time, large classes, and an obsessive concern with test scores are just some of the demands that drive the quitters out of the profession. Moreover, quitters and failures are insensitive to many of the conflicting demands that every large, impersonal organization makes. And worst of all, they don't believe a good teacher "should" ever burn out. They believe that a really good person who really wants to be a teacher should *never* be ground down by any bureaucracy. This set of perceptions leads them to experience feelings of inadequacy and guilt when they do burn out. And unlike stars, who use their support networks to offset the expected pressures, quitters and failures respond to the pressures by feeling that they probably should never have become teachers.

7. *Fallibility.* Children and young people cannot learn in a classroom where mistakes are not allowed. One effective way to ensure that we find

teachers who can accept the mistakes of students is to select those who can accept their own mistakes. When teachers are asked, "Do you ever make mistakes?" they answer, "Of course, I'm only human!" or "Everyone makes mistakes." The difference between stars and quitters is in the nature of the mistakes that they recognize and own up to. Stars acknowledge serious problems and ones having to do with human relations; quitters and failures confess to spelling and arithmetic errors.

Functions Beyond the Interview

Thus far I have outlined seven teaching functions for which we have been able to create and validate interview questions. While the actual questions we use in the interview cannot be shared, I have described above the goals of the questions. It is noteworthy that there are seven additional functions for which we have never been able to develop interview questions but which are equally powerful in discriminating between stars and quitters. These functions and brief explanations follow.

- *Organizational ability:* the predisposition and ability to engage in planning and gathering of materials.
- *Physical/emotional stamina:* the ability to persist in situations characterized by violence, death, and other crises.
- *Teaching style:* the predisposition to engage in coaching rather than directive teaching.
- *Explanations of success:* the predisposition to emphasize students' effort rather than ability.
- *Basis of rapport:* the approach to student involvement. Whose classroom is it? Whose work is to be protected?
- *Readiness:* the approach to prerequisite knowledge. Who should be in this classroom?

For children in poverty, schooling is a matter of life and death. They have no other realistic options for "making it" in American society. They lack the family resources, networks, and out-of-school experiences that could compensated for what they are not offered in schools. Without school success, they are doomed to lives of continued poverty and consigned to conditions that characterize a desperate existence: violence, inadequate health care, a lack of life options, and hopelessness. The typical high school graduate has had approximately 54 teachers. When I ask successful graduates from inner-city schools, "How many of your teachers have led you to believe that you were particularly good at anything?" the modal response is none. If graduates report this perception, I wonder what those who have dropped out would say?

I recognize that getting better teachers is not a reconstructive change strategy. Indeed, I may well deserve the criticism that I am offering a Band-Aid solution by finding great people who are merely helping to shore up and preserve bad systems.

As I listened to the great change experts of the 1950s, I bet myself that they would not succeed, and I set myself the modest task of doing whatever I could to save young people in schools as they are currently constituted by getting them a few better teachers. After 35 years the movers and shakers seem further behind than ever. School systems serving poor children have become more rigid, less financially stable, more violent, and further behind their advantaged counterparts.

During the same period the school districts using my selection and training methods have become a national network. We now know how to recruit and select teachers who can succeed with children in poverty. The number of such teachers in every urban school system will continue to grow. So, too, will the impact these star teachers are making on the lives of their students.

Mark Twain once quipped, "To do good things is noble. To advise others to do good things is even nobler—and a lot easier." I fail to understand why *talking* about the reconstruction of urban schools in America is noble work, while what star teachers and their students *actually accomplish* in these schools is merely a palliative. In my own admittedly naive view, it

seems that the inadequate nostrums of policy analysts and change agents are being given more attention than the effective behaviors of people who are busy making schools work better. A society that values ineffectual physicists over effective plumbers will find itself hip-deep in insoluble problems. ■

Notes

1. Martin Haberman, "Gentle Teaching in a Violent Society," *Educational Horizons*, Spring 1994, pp. 131–36.

2. Charles M. Payne, *Getting What We Ask For: The Ambiguity of Success and Failure in Urban Education* (Westport, Conn.: Greenwood, 1984).

Part Two
Students

Education is one of life's most complex activities. So much is involved. There are the knowledge, attitudes, values, and skills to be learned; there is the process of instruction; there is evaluation; there is the management of the learning environment. To teach well, to be an effective educator, demands so much of our attention that an essential element in the teaching-learning process may be lost: the student.

The entire purpose of teaching is to make some positive change in students. They are the main event, but sometimes we teachers lose focus. We become so involved in the knowledge to be conveyed or in the process of instruction that we lose sight of our students. We need to remind ourselves continually that the entire enterprise of education fails if the student is ill served. And we need to constantly remind ourselves that each student has a different set of needs, preferences, and goals.

One thing that should help us stay attuned to the student is the fact that modern life regularly requires us all to become students. No longer is the term *student* reserved for a relatively few young people receiving formal education. With the explosion of education in the last quarter century, people continually move in and out of student status. A knowledge- and information-oriented society such as ours requires continuous education. Whether it is acquiring computer literacy or learning how to run cooperative learning groups, we all return to being students from time to time. Having to struggle with new information or trying to master a new skill may be the best thing we can do to improve our teaching.

18 What Do We Know from Brain Research?

Pat Wolfe and Ron Brandt

In July 1989, following a congressional resolution, President Bush officially proclaimed the 1990s the "Decade of the Brain." And indeed in the past nine years, we have seen an unprecedented explosion of information on how the human brain works. Thousands of research projects, books, magazine cover stories, and television specials regale us with new facts and figures, colorful PET scans, and at times, suspiciously simple ways to improve our memories, prevent Alzheimer's, and make our babies geniuses.

Our knowledge of brain functioning has been revolutionized. And many of the new findings have changed medical practice. We have a much better understanding of mental illnesses and the drugs that ameliorate them. Treatment for tumors, seizures, and other brain diseases and disorders has become much more successful.

But what about the educational applications of these new findings? Have we learned enough to incorporate neuroscientific findings into our schools? Is it possible that the Decade of the Brain will usher in the Decade of Education?

Pat Wolfe is an independent educational consultant. Ron Brandt is Editor Emeritus of *Educational Leadership* and an independent educational consultant. Copyright © 1998 Pat Wolfe and Ron Brandt. "What Do We Know from Brain Research?" by Ron Brandt and Pat Wolfe. From *Educational Leadership*, November 1998, pp. 8–13. Reprinted by permission from the authors.

Interpreting Brain Research for Classroom Practice

Brain science is a burgeoning new field, and we have learned more about the brain in the past 5 years than in the past 100 years. Nearly 90 percent of all the neuroscientists who have ever lived are alive today. Nearly every major university now has interdisciplinary brain research teams.

But almost all scientists are wary of offering prescriptions for using their research in schools. Joseph LeDoux from New York University and author of *The Emotional Brain* (1996) says, "There are no quick fixes. These ideas are very easy to sell to the public, but it's too easy to take them beyond their actual basis in science." Susan Fitzpatrick, a neuroscientist at the McDonnell Foundation, says scientists don't have a lot to tell educators at this point. She warns,

> Anything that people would say right now has a good chance of not being true two years from now because the understanding is so rudimentary and people are looking at things at such a simplistic level. (1995, p. 24)

Researchers especially caution educators to resist the temptation to adopt policies on the basis of a single study or to use neuroscience as a promotional tool for a pet program. Much work needs to be done before the results of scientific studies can be taken into the classroom. The reluctance of scientists to sanction a quick marriage between neuroscience and education makes sense. Brain research does not—and may never—tell us specifically what we should do in a classroom. At this point it does not "prove" that a particular strategy will increase student understanding. That is not currently the purpose of neuroscience research. Its purpose is to learn how the brain functions. Neuroscience is a field of study separate from the field of education, and it is unrealistic to expect brain research to lead directly to pedagogy. So how do we use the current findings?

We need to critically read and analyze the research in order to separate the wheat from the chaff. If educators do not develop a functional

understanding of the brain and its processes, we will be vulnerable to pseudoscientific fads, inappropriate generalizations, and dubious programs.

Then, with our knowledge of educational practice, we must determine if and how brain research informs that practice. Educators have a vast background of knowledge about teaching and learning. This knowledge has been gained from educational research, cognitive science, and long experience. Given this knowledge base, educators are in the best position to know how the research does—or does not—supplement, explain, or validate current practices.

Although we must be cautious about many neuroscientific findings, a few are quite well established. Some validate what good educators have always done. Others are causing us to take a closer look at educational practice.

Finding One

The brain changes physiologically as a result of experience. The environment in which a brain operates determines to a large degree the functioning ability of that brain.

Researchers agree that at birth, humans do not yet possess a fully operational brain. The brain that eventually takes shape is the result of interaction between the individual's genetic inheritance and everything he or she experiences. Ronald Kotulak, in his book *Inside the Brain* (1996), uses the metaphor of a banquet to explain the relationship between genes and the environment.

> The brain gobbles up the external environment through its sensory system and then reassembles the digested world in the form of trillions of connections which are constantly growing or dying, becoming stronger or weaker depending on the richness of the banquet. (p. 4)

The environment affects how genes work, and genes determine how the environment is interpreted. This is a relatively new understanding. It wasn't too many years ago that scientists thought the brain was immutable or fixed at birth. Scientists had known for some time that with a few specialized exceptions, a child's brain at birth has all the brain cells, or neurons, that it will ever have. Unlike tissue in most other organs, neurons do not regenerate, so researchers assumed that the brain you had at birth was the brain you were stuck with for life.

However, Marian Diamond and her colleagues at the University of California at Berkeley pioneered research in the mid-1960s showing that brain structures are modified by the environment (Diamond & Hopson, 1998). Her research established the concept of neural plasticity—the brain's amazing ability to constantly change its structure and function in response to external experiences. A further finding that should please us all is that dendrites, the connections between brain cells, can grow at any age. Researchers have found this to be true in humans as well as in animals. Contrary to folk wisdom, a healthy older person is not necessarily the victim of progressive nerve cell loss and diminishing memory and cognitive abilities.

So our environment, including the classroom environment, is not a neutral place. We educators are either growing dendrites or letting them wither and die. The trick is to determine what constitutes an enriched environment. A few facts about the brain's natural proclivities will assist us in making these determinations.

1. The brain has not evolved to its present condition by taking in meaningless data; an enriched environment gives students the opportunity to make sense out of what they are learning, what some call the opportunity to "make meaning."

2. The brain develops in an integrated fashion over time. Babies don't talk one week, tie their shoes the next, and then work on their emotional development. An enriched environment addresses multiple aspects of development simultaneously.

3. The brain is essentially curious, and it must be to survive. It constantly seeks connections between the new and the known. Learning is a process of active construction by the learner, and an enriched environment gives students the opportunity to relate what they are learning to what they already know. As noted educator

Phil Schlecty says, "Students must do the work of learning."

4. The brain is innately social and collaborative. Although the processing takes place in our students' individual brains, their learning is enhanced when the environment provides them with the opportunity to discuss their thinking out loud, to bounce their ideas off their peers, and to produce collaborative work.

Finding Two

IQ is not fixed at birth.

This second finding is closely linked to the first. Craig Ramey, a University of Alabama psychologist, took on the daunting task of showing that what Diamond did with rats, he could do with children. His striking research (Ramey & Ramey, 1996) proved that an intervention program for impoverished children could prevent children from having low IQs and mental retardation.

Ramey has directed studies of early educational intervention involving thousands of children at dozens of research centers. The best programs, which started with children as young as six weeks and mostly younger than four months, showed that they could raise the infants' scores on intelligence tests by 15 to 30 percent. It is important to note that although IQ tests may be useful artifacts, intelligence is probably much more multifaceted. Every brain differs, and the subtle range of organizational, physiological, and chemical variations ensures a remarkably wide spectrum of cognitive, behavioral, and emotional capabilities.

Finding Three

Some abilities are acquired more easily during certain sensitive periods, or "windows of opportunity."

At birth, a child's cerebral cortex has all the neurons that it will ever have. In fact, in utero, the brain produces an overabundance of neurons, nearly twice as many as it will need. Beginning at about 28 weeks of prenatal development, a massive pruning of neurons begins, resulting in the loss of one-third to one-half of these elements. (So we lose up to half our brain cells before we're born.) While the brain is pruning away excess neurons, a tremendous increase in dendrites adds substantially to the surface area available for synapses, the functional connections among cells. At the fastest rate, connections are built at the incredible speed of 3 billion a second. During the period from birth to age 10, the number of synaptic connections continues to rise rapidly, then begins to drop and continues to decline slowly into adult life.

Much credit for these insights into the developing brain must be given to Harry Chugani and Michael Phelps at the UCLA School of Medicine. Phelps co-invented the imaging technique called Positron Emission Tomography (PET), which visually depicts the brain's energy use. Using PET scans, Chugani has averaged the energy use of brains at various ages. His findings suggest that a child's peak learning years occur just as all those synapses are forming (1996). Chugani states that not only does the child's brain overdevelop during the early years, but that during these years, it also has a remarkable ability to adapt and recognize. It appears to develop some capacities with more ease at this time than in the years after puberty. These stages once called "critical periods" are more accurately described as "sensitive periods" or "windows of opportunity."

Probably the prime example of a window is vision. Lack of visual stimulation at birth, such as that which occurs with blindness or cataracts, causes the brain cells designed to interpret vision to atrophy or be diverted to other tasks. If sight is not restored by age 3, the child will be forever blind. . . . Similarly, the critical period for learning spoken language is totally lost by about age 10. If a child is born deaf, the 50,000 neural pathways that would normally activate the auditory cells remain silent, and the sound of the human voice, essential for learning language, can't get through. Finally, as the child grows older, the cells atrophy and the ability to learn spoken language is lost.

Not all windows close as tightly as those for vision and language development. Although

learning a second language also depends on the stimulation of the neurons for the sounds of that language, and adult certainly can learn a second language and learn to speak it quite well. However, it is much more difficult to learn a foreign language after age 10 or so, and the language will probably be spoken with an accent. We might say that learning a second language is not a window that slams shut—it just becomes harder to open.

The implications of the findings regarding early visual auditory, motor, cognitive, and emotional development are enormous. Indeed, in many places work has already begun to enrich prenatal and early childhood environments. One example is the application of the research with premature infants. Premature babies who are regularly touched in their incubators gain weight at twice the rate of those who are not touched. Preemies whose parents visit them regularly vocalize twice as much in the third week as babies who are visited infrequently or not at all.

The research findings on early development are in stark contrast with the current situation in society.

- An estimated 12 percent of infants born in this country suffer significant reduction of their cognitive ability as a result of preterm birth; maternal smoking, alcohol use, or drug use in pregnancy; maternal and infant malnutrition; and postbirth lead poisoning or child abuse (Newman & Buka, 1997). Many of these factors could be eliminated with education programs for parents (or future parents). Twenty-five percent of all pregnant women receive no prenatal care.
- The early years, which are most crucial for learning, receive the least emphasis in federal, state, and local programs. We spend at least seven times more on the elderly than we do on children from birth to age 5.
- About half of all children in the United States are in full-time day care within the first year. Yet many day care centers not only are underfunded, but they are also staffed by untrained, low-paid workers and have too high an adult/child ratio. (Thirty-eight states do not require family child care providers to have *any* training prior to serving children.)
- Our present system generally waits until children fall behind in school, then places them in special education programs. With intense early intervention, we could reverse or prevent some adverse effects. It is possible that the billions of dollars spent on special education services might be better spent on early intervention.

Finding Four

Learning is strongly influenced by emotion.

The role of emotion in learning has received a good deal of press in the past few years. Daniel Goleman's *Emotional Intelligence* (1995) and Joseph LeDoux's *The Emotional Brain* (1996) have been instrumental in increasing our understanding of emotion.

Emotion plays a dual role in human learning. First, it plays a positive role in that the stronger the emotion connected with an experience, the stronger the memory of that experience. Chemicals in the brain send a message to the rest of the brain: "This information is important. Remember it." Thus, when we are able to add emotional input into learning experiences to make them more meaningful and exciting, the brain deems the information more important and retention is increased.

In contrast, LeDoux has pointed out that if the emotion is too strong (for example, the situation is perceived by the learner to be threatening), then learning is decreased. Whether you call this "downshifting" or decreasing the efficiency of the rational thinking cortex of the brain, it is a concept with many implications for teaching and learning.

Expect More Findings

On the horizon are many more studies that may have implications for the education of the human brain from birth through old age. Current research areas include these:

- The role of nutrition in brain functioning
- How brain chemicals affect mood, personality, and behavior

■ The connection between the mind/brain and the body

Rather than passively wait for research findings that might be useful, educators should help direct the search to better understand how the brain learns. James McGaugh of the University of California at Irvine has suggested that we educators need to be more proactive and tell the scientists, "Here's what we need to know. How can you help us?"

Should the Decade of the Brain lead to an enlightened Decade of Education? Eventually, yes. Along with cognitive research and the knowledge base we already have, findings from the neurosciences can provide us with important insights into how children learn. They can direct us as we seek to enrich the school experience for all children—the gifted, the creative, the learning disabled, the dyslexic, the average students, and all the children whose capabilities are not captured by IQ or other conventional measures. We can help parents and other caregivers understand the effects of maternal nutrition and prenatal drug and alcohol use and the role of early interaction and enriched environments. Brain research can also offer valuable guidance to policymakers and school administrators as they strive to focus their priorities.

Does what we are learning about the brain matter? It must, because our children matter. ■

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The Educated Person

Ernest L. Boyer

As we anticipate a new century, I am drawn back to questions that have, for generations, perplexed educators and philosophers and parents. What *is* an educated person? What *should* schools be teaching to students?

In searching for answers to these questions, we must consider first not the curriculum, but the human condition. And we must reflect especially on two essential realities of life. First, each person is unique. In defining goals, it is crucial for educators to affirm the special characteristics of each student. We must create in schools a climate in which students are empowered, and we must find ways in the nation's classrooms to celebrate the potential of each child. But beyond the diversity of individuals, educators also must acknowledge a second reality: the deeply rooted characteristics that bind together the human community. We must show students that people around the world share a great many experiences. Attention to both these aspects of our existence is critical to any discussion of what all children should learn.

What, then, does it mean to be an educated person? It means developing one's own aptitudes and interests and discovering the diversity that makes us each unique. And it means becoming permanently empowered with language proficiency, general knowledge, social confidence, and moral awareness in order to be economically and civically successful. But becoming well educated also means discovering the connectedness of things. Educators must help students see relationships across the disciplines and learn that education is a communal act, one that affirms not only individualism, but community. And for these goals to be accomplished, we need a new curriculum framework that is both comprehensive and coherent, one that can encompass existing subjects and integrate fragmented content while relating the curriculum to the realities of life. This curriculum must address the uniqueness of students' histories and experiences, but it also must guide them to understand the many ways that humans are connected.

Some schools and teachers are aiming to fully educate students, but most of us have a very long way to go in reaching this goal. Today, almost all students in U.S. schools still complete Carnegie units in exchange for a diploma. The time has come to bury the old Carnegie unit; since the Foundation I now head created this unit of academic measure nearly a century ago, I feel authorized to declare it obsolete. Why? Because it has helped turn schooling into an exercise in trivial pursuit. Students get academic "credit," but they fail to gain a coherent view of what they study. Education is measured by seat time, not time for learning. While curious young children still ask why things are, many older children ask only, "Will this be on the test?" All students should be encouraged to ask "Why?" because "Why?" is the question that leads students to connections.

In abandoning the Carnegie unit, I do not endorse the immediate adoption of national assessment programs; indeed, I think we must postpone such programs until we are much clearer about what students should be learning. The goal, again, is not only to help students become well informed and prepared for lifelong learning, but also to help them put learning into the larger context of discovering the connectedness of things. Barbara McClintock, the 1983 winner of the Nobel

Ernest Boyer was, until his death in 1996, one of the key figures in American education. He held numerous positions in education from classroom teacher to president of the Carnegie Foundation for the Advancement of Teaching, and throughout his career he was widely respected for his sound, balanced views. Boyer, Ernest, "The Educated Person." *Toward a Coherent Curriculum* by James A. Beane, pp. 16–25. Copyright © 1995. Reprinted with permission from ASCD. All rights reserved.

Prize for Physiology–Medicine, asserts: "Everything is one. There is no way to draw a line between things." Contrary to McClintock's vision, the average school or college catalog dramatizes the separate academic boxes.

Frank Press, president of the National Academy of Sciences, compares scientists to artists, evoking the magnificent double helix, which broke the genetic code. He said the double helix is not only rational, but beautiful. Similarly, when scientists and technicians watch the countdown to a space launch, they don't say, "Our formulas worked again." They respond, "Beautiful!" instinctively reaching for the aesthetic term to praise a technological achievement. When physicist Victor Weisskopf was asked, "What gives you hope in troubled times?" he replied, "Mozart and quantum mechanics." Most schools, however, separate science and art, discouraging students from seeing the connections between them.

How, then, can we help students see relationships and patterns and gain understanding beyond the separate academic subjects? How can we rethink the curriculum and use the disciplines to illuminate larger, more integrated ends?

Human Commonalities

In the 1981 book *A Quest for Common Learning*, I suggested that we might organize the curriculum not on the basis of disciplines or departments, but on the basis of "core commonalities." By core commonalities, I mean universal experiences that make us human, experiences shared by all cultures on the planet. During the past decade and a half, my thinking abut this thematic structure has continued to evolve. I now envision eight commonalities that bind us to one another:

I. The Life Cycle. As life's most fundamental truth, we share, first, the experience that connects birth, growth, and death. This life cycle binds each of us to others, and I find it sad that so many students go through life without reflecting on the mystery of their own existence. Many complete twelve or sixteen years of formal schooling not considering the sacredness of their own bodies, not learning to sustain wellness, not pondering the imperative of death.

In reshaping the curriculum to help students see connections, I would position study of "The Life Cycle" at the core of common learning. Attention would go to nutrition, health, and all aspects of wellness. For a project, each student would undertake the care of some life form.

My wife is a certified nurse-midwife who delivers babies, including seven grandchildren of our own. Kay feels special pain when delivering the baby of a teenage girl because she knows that she is delivering one child into the arms of another, and that both have all too often lived for nine months on soda and potato chips. Some young mothers first learn about the birth process between the sharp pains of labor.

Too many young women and young men pass through our process of education without learning about their own bodies. Out of ignorance, they suffer poor nutrition, addiction, and violence. "Maintaining children's good health is a shared responsibility of parents, schools, and the community at large," according to former Secretary of Education William Bennett (1986, p. 37). He urges elementary schools "to provide children with the knowledge, habits, and attitudes that will equip them for a fit and healthy life."

Study of the Life Cycle would encourage students to reflect sensitively on the mystery of birth and growth and death, to learn about body functions and thus understand the role of choice in wellness, to carry some of their emotional and intellectual learning into their relations with others, and to observe, understand, and respect a variety of life forms.

II. Language. Each life on the planet turns to symbols to express feelings and ideas. After a first breath, we make sounds as a way of reaching out to others, connecting with them. We develop a variety of languages: the language of words (written and spoken), the language of symbols (mathematics, codes, sign systems), and the language of the arts (aesthetic expressions in language, music, paint, sculpture, dance, theater,

craft, and so on). A quality education develops proficiency in the written and the spoken word, as well as a useful knowledge of mathematical symbol systems and an understanding that the arts provide countless ways to express ourselves.

Our sophisticated use of language sets human beings apart from all other forms of life. Through the created words and symbols and arts, we connect to one another. Consider the miracle of any moment. One person vibrates his or her vocal cords. Molecules shoot in the direction of listeners. They hit the tympanic membrane; signals go scurrying up the eighth cranial nerve. From that series of events, the listener feels a response deep in the cerebrum that approximates the images in the mind of the speaker. Because of its power and scope, language is the means by which all other subjects are pursued.

The responsible use of language demands both *accuracy* and *honesty*, so students studying "Language" must also learn to consider the ethics of communication. Students live in a world where obscenities abound. They live in a world where politicians use sixty-second sound bites to destroy integrity. They live in a world where clichés substitute for reason. To make their way in this world, students must learn to distinguish between deceit and authenticity in language.

Writers and mathematicians have left a long and distinguished legacy for students to learn from. Through words, each child can express something personal. Through symbols, each child can increase the capacity to calculate and reason. Through the arts, each child can express a thought or a feeling. People need to write with clarity, read with comprehension, speak effectively, listen with understanding, compute accurately, and understand the communicative capabilities of the arts. Education for the next century means helping students understand that language in all its forms is a powerful and sacred trust.

III. The Arts. All people on the planet respond to the aesthetic. Dance, music, painting, sculpture, and architecture are languages understood around the world. "Art represents a social necessity that no nation can neglect without endangering its intellectual existence," said John Ruskin (Rand 1993). We all know how art can affect us. Salvador Dali's painting *The Persistence of Memory* communicates its meaning to anyone ever haunted by time passing. The gospel song "Amazing Grace" stirs people from both Appalachia and Manhattan. "We Shall Overcome," sung in slow and solemn cadence, invokes powerful feelings regardless of the race or economic status of singer or audience.

Archaeologists examine the artifacts of ancient civilization—pottery, cave paintings, and musical instruments—to determine the attainments and quality of a culture. As J. Carter Brown (1986) observes, "The texts of man's achievements are not written exclusively in words. They are written, as well, in architecture, paintings, sculpture, drawing, photography, and in urban, graphic, landscape, and industrial design."

Young children understand that the arts are language. Before they learn to speak, they respond intuitively to dance, music, and color. The arts also help children who are disabled. I once taught deaf children, who couldn't speak because they couldn't hear. But through painting, sculpture, and rhythm, they found new ways to communicate.

Every child has the urge and capacity to be expressive. It is tragic that for most children the universal language of the arts is suppressed, then destroyed, in the early years of learning, because traditional teaching does not favor self-expression and school boards consider art a frill. This is an ironic deprivation when the role of art in developing critical thinking is becoming more widely recognized.

Jacques d'Amboise, former principal dancer with the New York City Ballet, movie star, and founder of the National Dance Institute, offers his view on how art fits into education: "I would take the arts, science and sports, or play, and make all education involve all of them. It would be similar to what kindergarten does, only more sophisticated, right through life. All of the disciplines would be interrelated. You dance to a poem: poetry is meter, meter is time, time is science" (Ames and Peyser 1990).

For our most moving experiences, we turn to the arts to express feelings and ideas that words cannot convey. The arts are, as one poet has put it, "the language of the angels." To be truly educated means being sensitively responsive to the universal language of art.

IV. Time and Space While we are all nonuniform and often seem dramatically different from one another, all of us have the capacity to place ourselves in time and space. We explore our place through geography and astronomy. We explore our sense of time through history.

And yet, how often we squander this truly awesome capacity for exploration, neglecting even our personal roots. Looking back in my own life, my most important mentor was Grandpa Boyer, who lived to be one hundred. Sixty years before that, Grandpa moved his little family into the slums of Dayton, Ohio. He then spent the next forty years running a city mission, working for the poor, teaching me more by deed than by word that to be truly human, one must serve. For far too many children, the influence of such intergenerational models has diminished or totally disappeared.

Margaret Mead said that the health of any culture is sustained when three generations are vitally interacting with one another—a "vertical culture" in which the different age groups are connected. Yet in America today we've created a "horizontal culture," with each generation living alone. Infants are in nurseries, toddlers are in day care, older children are in schools organized by age. College students are isolated on campuses. Adults are in the workplace. And older citizens are in retirement villages, living and dying all alone.

For several years, my own parents chose to live in a retirement village where the average age was eighty. But this village had a day-care center, too, and all the three- and four-year-olds had adopted grandparents to meet with every day. The two generations quickly became friends. When I called my father, he didn't talk about his aches and pains, he talked about his little friend. And when I visited, I saw that my father, like any proud grandparent, had the child's drawings taped to the wall. As I watched the two of them together, I was struck by the idea that there is something really special about a four-year-old seeing the difficulty and courage of growing old. And I was struck, too, by watching an eighty-year-old being informed and inspired by the energy and innocence of a child. Exposure to such an age difference surely increases the understanding of time and personal history.

The time has come to break up the age ghettos. It is time to build intergenerational institutions that bring together the old and young. I'm impressed by the "grandteacher" programs in the schools, for example. In the new core curriculum, with a strand called "Time and Space," students should discover their own roots and complete an oral history. But beyond their own extended family, all students should also become well informed about the influence of the culture that surrounds them and learn about the traditions of other cultures.

A truly educated person will see connections by placing his or her life in time and space. In the days ahead, students should study *Western* civilization to understand our past, but they should study *non-Western* cultures to understand our present and our future.

V. Groups and Institutions. All people on the planet belong to groups and institutions that shape their lives. Nearly 150 years ago, Ralph Waldo Emerson observed, "We do not make a world of our own, but rather fall into institutions already made and have to accommodate ourselves to them." Every society organizes itself and carries on its work through social interaction that varies from one culture to another.

Students must be asked to think about the groups of which they are members, how they are shaped by those groups, and how they help to shape them. Students need to learn about the social web of our existence, about family life, about how governments function, about the informal social structures that surround us. They also must

discover how life in groups varies from one culture to another.

Civic responsibility also must be taught. The school itself can be the starting point for this education, serving as a "working model" of a healthy society in microcosm that bears witness to the ideals of community. Within the school, students should feel "enfranchised." Teachers, administrators, and staff should meet often to find their *own* relationship to the institution of the school. And students should study groups in their own community, finding out about local government.

One of my sons lives in a Mayan village in the jungle of Belize. When my wife and I visit Craig each year, I'm impressed that Mayans and Americans live and work in very similar ways. The jungle of Manhattan and the one of Belize are separated by a thousand miles and a thousand years, and yet the Mayans, just like us, have their family units. They have elected leaders, village councils, law enforcement officers, jails, schools, and places to worship. Life there is both different and very much the same. Students in the United States should be introduced to institutions in our own culture and in other cultures, so they might study, for example, both Santa Cruz, California, and Santa Cruz, Belize.

We all belong to many groups. Exploring their history and functions helps students understand the privileges and the responsibilities that belong to each of us.

VI. Work. We all participate, for much of our lives, in the commonality of work. As Thoreau reminds us, we both "live" and "get a living." Regardless of differences, all people on the planet produce and consume. A quality education will help students understand and prepare for the world of work. Unfortunately, our own culture has become too preoccupied with *consuming*, too little with the tools for *producing*. Children may see their parents leave the house carrying briefcases or lunch pails in the morning and see them come home again in the evening, but do they know what parents actually do during the day?

Jerome Bruner (1971) asks: "Could it be that in our stratified and segmented society, our students simply do not know about local grocers and their styles, local doctors and their styles, local taxi drivers and theirs, local political activists and theirs? . . . I would urge that we find some way of connecting the diversity of the society to the phenomenon of school" (p. 7). A new, integrative curriculum for the schools needs to give attention to "Producing and Consuming," with each student studying simple economics, different money systems, vocational studies, career planning, how work varies from one culture to another, and with each completing a work project to gain a respect for craftsmanship.

Several years ago when Kay and I were in China, we were told about a student who had defaced the surface of his desk. As punishment, he spent three days in the factory where desks were made, helping the woodworkers, observing the effort involved. Not surprisingly, the student never defaced another desk.

When I was Chancellor of the State University of New York, I took my youngest son, then eight, to a cabin in the Berkshires for the weekend. My goal: to build a dock. All day, instead of playing, Stephen sat by the lake, watching me work. As we drove home, he looked pensive. After several miles, he said, "Daddy, I wish you'd grown up to be a carpenter—instead of you-know-what!"

VII. Natural World. Though all people are different, we are all connected to the earth in many ways. David, my grandson in Belize, lives these connections as he chases birds, bathes in the river, and watches corn being picked, pounded into tortillas, and heated outdoors. But David's cousins in Boston and Princeton spend more time with appliances, asphalt roadways, and precooked food. For them, discovering connectedness to nature does not come so naturally.

When I was United States Commissioner of Education, Joan Cooney, the brilliant creator of *Sesame Street*, told me that she and her colleagues at Children's Television Workshop wanted to start a new program on science and technology

for junior high school kids. They wanted young people to learn a little more about their world and what they must understand as part of living. Funds were raised, and *3–2–1 Contact* went on the air. To prepare scripts, staff surveyed junior high school kids in New York City, asking questions such as "Where does water come from?"—which brought from some students the disturbing reply, "The faucet." They asked, "Where does light come from?" and heard, "The switch." And they asked, "Where does garbage go?" "Down the chute." These students' sense of connectedness stopped at the VCR or refrigerator door.

Canadian geneticist David Suzuki, host of *The Nature of Things*, says: "We ought to be greening the school yard, breaking up the asphalt and concrete. . . . We have to give children hand-held lenses, classroom aquariums and terrariums, lots of field trips, organic garden plots on the school grounds, butterfly gardens, trees. Then insects, squirrels—maybe even raccoons and rabbits—will show up, even in the city. We've got to reconnect those kids, and we've got to do it very early. . . . Our challenge is to reconnect children to their natural curiosity" (Baron Estes 1993).

With all our differences, each of us is inextricably connected to the natural world. During their days of formal learning, students should explore this commonality by studying the principles of science, by discovering the shaping power of technology, and, above all, by learning that survival on this planet means respecting and preserving the earth we share.

VIII. Search for Meaning. Regardless of heritage or tradition, each person searches for some larger purpose. We all seek to give special meaning to our lives. Reinhold Neibuhr said, "Man cannot be whole unless he be committed, he cannot find himself, unless he find a purpose beyond himself." We all need to examine values and beliefs, and develop convictions.

During my study of the American high school, I became convinced ours is less a school problem and more a youth problem. Far too many teenagers feel unwanted, unneeded, and unconnected. Without guidance and direction, they soon lose their sense of purpose—even their sense of wanting purpose.

Great teachers allow their lives to express their values. They are matchless guides as they give the gift of opening truths about themselves to their students. I often think of three or four teachers, out of the many I have worked with, who changed my life. What made them truly great? They were well informed. They could relate their knowledge to students. They created an active, not passive, climate for learning. More than that, they were authentic human beings who taught their subjects and were open enough to teach about themselves.

Service projects instill values. All students should complete a community service project, working in day-care centers and retirement villages or tutoring other students at school. The North Carolina School of Science and Math develops an ethos of responsible citizenship. To be admitted, a child must commit to sixty hours of community service per summer and three hours per week during the school year (Beach 1992, p. 56).

Martin Luther King, Jr., preached: "Everyone can be great because everyone can serve." I'm convinced the young people of this country want inspiration from this kind of larger vision, whether they come across it in a book or in person, or whether they find it inside themselves.

Values, Beliefs, and Connections

What, then, does it mean to be an educated person? It means respecting the miracle of life, being empowered in the use of language, and responding sensitively to the aesthetic. Being truly educated means putting learning in historical perspective, understanding groups and institutions, having reverence for the natural world, and affirming the dignity of work. And, above all, being an educated person means being

guided by values and beliefs and connecting the lessons of the classroom to the realities of life. These are the core competencies that I believe replace the old Carnegie units.

And all of this can be accomplished as schools focus not on seat time, but on students involved in true communities of learning. I realize that remarkable changes must occur for this shift in goals to take place, but I hope deeply that in the century ahead students will be judged not by their performance on a single test but by the quality of their lives. It is my hope that students in the classrooms of tomorrow will be encouraged to create more than conform, and to cooperate more than compete. Each student deserves to see the world clearly and in its entirety and to be inspired by both the beauty and the challenges that surround us all.

Above all, I pray that Julie and David, my granddaughter in Princeton and my grandson in Belize, along with all other children on the planet, will grow to understand that they belong to the same human family, the family that connects us all.

Fifty years ago, Mark Van Doren wrote, "The connectedness of things is what the educator contemplates to the limit of his capacity." The student, he says, who can begin early in life to see things as connected has begun the life of learning. This, it seems to me, is what it means to be an educated person. ■

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Multiculturalism: E Pluribus Plures

Diane Ravitch

Questions of race, ethnicity, and religion have been a perennial source of conflict in American education. The schools have often attracted the zealous attention of those who wish to influence the future, as well as those who wish to change the way we view the past. In our history, the schools have been not only an institution in which to teach young people skills and knowledge, but an arena where interest groups fight to preserve their values, or to revise the judgments of history, or to bring about fundamental social change.

Given the diversity of American society, it has been impossible to insulate the schools from pressures that result from differences and tensions among groups. When people differ about basic values, sooner or later those disagreements turn up in battles about how schools are organized or what the schools should teach. Sometimes these battles remove a terrible injustice, like racial segregation. Sometimes however, interest groups politicize the curriculum and attempt to impose their views on teachers, school officials, and textbook publishers. When groups cross the line into extremism, advancing their own agendas without regard to reason or to others, they threaten public education itself, making it difficult to teach any issues honest and making the entire curriculum vulnerable to political campaigns.

For many years, the public schools attempted to neutralize controversies over race, religion, and ethnicity by ignoring them. The textbooks minimized problems among groups and taught a sanitized version of history. Race, religion, and ethnicity were presented as minor elements in the American saga; slavery was treated as an episode, immigration as a sidebar, and women were largely absent. The textbooks concentrated on presidents, wars, national politics, and issues of state. An occasional "great black" or "great woman" received mention, but the main narrative paid little attention to minority groups and women.

With the ethnic revival of the 1960s, this approach to the teaching of history came under fire, because the history of national leaders—virtually all of whom were white, Anglo-Saxon, and male—ignored the place in American history of those who were none of the above. The traditional history of elites had been complemented by an assimilationist view of American society, which presumed that everyone in the American melting pot would eventually lose or abandon those ethnic characteristics that distinguished each from mainstream Americans. The ethnic revival demonstrated that many groups did not want to be assimilated or melted. Ethnic studies programs popped up on campuses to teach not only that "black is beautiful," but also that every other variety of ethnicity is "beautiful" as well; everyone who had "roots" began to look for them so that they, too, could recover that ancestral part of themselves that had not been homogenized.

As ethnicity became an accepted subject for study in the late 1960s, textbooks were assailed for their failure to portray blacks accurately; within a few years, the textbooks in wide use were carefully screened to eliminate bias against minority groups and women. At the same time, new scholarship about the history of women, blacks, and various ethnic minorities found its way into the textbooks. Today's history textbooks routinely incorporate the experiences of

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women, blacks, American Indians, and various immigrant groups.

As a result of the political and social changes of recent decades, cultural pluralism is now generally recognized as an organizing principle of this society. In contrast to the idea of the melting pot, which promised to erase ethnic and group differences, children now learn that variety is the spice of life. They learn that America has provided a haven for many different groups and has allowed them to maintain their cultural heritage or to assimilate, or—as is often the case—to do both; the choice is theirs, not the state's. They learn that cultural pluralism is one of the norms of a free society; that differences among groups are a national resource rather than a problem to be solved. Indeed, the unique feature of the United Stats is that its common culture has been formed by the interaction of its subsidiary cultures. It is a culture that has been influenced over time by immigrants, American Indians, Africans (slave and free) and by their descendants. American music, art, literature, language, food, clothing, sports, holidays, and customs all show the effects of the commingling of diverse cultures in one nation. Paradoxical though it may seem, the United States has a common culture that is multicultural.

This understanding of the pluralistic nature of American culture has taken a long time to forge. It is based on sound scholarship and has led to major revisions in what children are taught and what they read in school. The new history is—indeed, must be—a warts-and-all history; it demands an unflinching examination of racism and discrimination in our history. Making these changes is difficult, raises tempers, and ignites controversies but gives a more interesting and accurate account of American history. Accomplishing these changes is valuable, because there is also a useful lesson for the rest of the world in America's relatively successful experience as a pluralist society. Throughout human history, the clash of different cultures, races, ethnic groups, and religions has often been the cause of bitter hatred, civil conflict, and international war. The ethnic tensions that now are tearing apart Lebanon, Sri Lanka, Kashmir, and various republics of the Soviet Union remind us of the costs of unfettered group rivalry. Thus, it is a matter of more than domestic importance that we closely examine and try to understand that part of our national history in which different groups competed, fought, suffered, but ultimately learned to live together in relative peace and even achieved a sense of common nationhood.

Particularism

Alas, these painstaking efforts to expand the understanding of American culture into a richer and more varied tapestry have taken a new turn, and not for the better. Almost any idea, carried to its extreme, can be made pernicious, and this is what is happening now to multiculturalism. Today, pluralistic multiculturalism must contend with a new, particularistic multiculturalism. The pluralists seek a richer common culture; the particularists insist that no common culture is possible or desirable.

The new particularism is entering the curriculum in a number of school systems across the country. Advocates of particularism propose an ethnocentric curriculum to raise the self-esteem and academic achievement of children from racial and ethnic minority backgrounds. Without any evidence, they claim that children from minority backgrounds will do well in school *only* if they are immersed in a positive, prideful version of their ancestral culture. If children are of, for example, Fredonian ancestry, they must hear that Fredonians were important in mathematics, science, history, and literature. If they learn about great Fredonians and if their studies use Fredonian examples and Fredonian concepts, they will do well in school. If they do not, they will have low self-esteem and will do badly.

The particularistic version of multiculturalism is unabashedly filiopietistic and deterministic. It teaches children that their identity is determined by their "cultural genes"—that something in their blood or their racial memory

or their cultural DNA defines who they are and what they may achieve; that the culture in which they live is not their own culture, even though they were born here; that American culture is "Eurocentric," and therefore hostile to anyone whose ancestors are not European. Perhaps the most invidious implication of particularism is that racial and ethnic minorities are not and should not try to be part of American culture; it implies that American culture belongs only to those who are white and European; it implies that those who are neither white nor European are alienated from American culture by virtue of their race or ethnicity; it implies that the only culture they do belong to or can ever belong to is the culture of their ancestors, even if their families have lived in this country for generations.

The pluralist approach to multiculturalism promotes a broader interpretation of the common American culture and seeks due recognition for the ways that the nation's many racial, ethnic, and cultural groups have transformed the national culture. The pluralists say, in effect, "American culture belongs to us, all of us; the United States is us, and we remake it in every generation." But particularists have no interest in extending or revising American culture; indeed, they deny that a common culture exists. Particularists reject any accommodation among groups, any interactions that blur the distinct lines between them. The brand of history that they espouse is one in which everyone is a descendant of victims or oppressors. By taking this approach, they fan and re-create ancient hatreds in each new generation.

Particularism has its intellectual roots in the ideology of ethnic separatism and in the black nationalist movement. In the particularist analysis, the nation has five cultures: African American, Asian American, European American, Latino/Hispanic, and American Indian. The huge cultural, historical, religious, and linguistic differences within these categories are ignored, as is the considerable intermarriage among these groups, as are the linkages (like gender, class, sexual orientation, and religion) that cut across these five groups. No serious scholar would claim that all Europeans and white Americans are part of the same culture, or that all Asians are part of the same culture, or that all people of Latin American descent are of the same culture, or that all people of African descent are of the same culture. Any categorization this broad is essentially meaningless and useless.

Particularism is a bad idea whose time has come. It is also a fashion spreading like wildfire through the education system, actively promoted by organizations and individuals with a political and professional interest in strengthening ethnic power bases in the university, in the education profession, and in society itself. One can scarcely pick up an educational journal without learning about a school district that is converting to an ethnocentric curriculum in an attempt to give "self-esteem" to children from racial minorities. A state-funded project in a Sacramento high school is teaching young black males to think like Africans and to develop the "African Mind Model Technique," in order to free themselves of the racism of American culture. A popular black rap singer, KRS-One, complained in an op-ed article in the *New York Times* that the schools should be teaching blacks about their cultural heritage, instead of trying to make everyone Americans. "It's like trying to teach a dog to be a cat," he wrote. KRS-One railed about having to learn about Thomas Jefferson and the Civil War, which had nothing to do (he said) with black history.

Ethnomathematics

Pluralism can easily be transformed into particularism, as may be seen in the potential uses in the classroom of the Mayan contribution to mathematics. The Mayan example was popularized in a movie called *Stand and Deliver,* about a charismatic Bolivian-born mathematics teacher in Los Angeles who inspired his students (who are Hispanic) to learn calculus. He told them that their ancestors invented the concept of zero; but that wasn't all he did. He used imagination to put across mathematic concepts. He required students to do home-

work and to go to school on Saturdays and during the Christmas holidays, so that they might pass the advanced placement mathematics examination. The teacher's reference to the Mayans' mathematical genius was a valid instructional device: It was an attention-getter and would have interested even students who were not Hispanic. But the Mayan example would have had little effect without the teacher's insistence that the class study hard for a difficult examination.

Ethnic educators have seized on the Mayan contribution to mathematics as the key to simultaneously boosting the ethnic ride of Hispanic children and attacking Eurocentrism. One proposal claims that Mexican-American children will be attracted to science and mathematics if they study Mayan mathematics, the Mayan calendar, and Mayan astronomy. Children in primary grades are to be taught that the Mayans were first to discover the zero and that Europeans learned it long afterward from the Arabs, who had learned it in India. This will help students see that Europeans were latecomers in the discovery of great ideas. Botany is to be learned by study of the agricultural techniques of the Aztecs, a subject of somewhat limited relevance to children in urban areas. Furthermore, "ethnobotanical" classifications of plants are to be substituted for the Eurocentric Linnaean system. At first glance, it may seem curious that Hispanic children are deemed to have no cultural affinity with Spain; but to acknowledge the cultural tie would confuse the ideological assault on Eurocentrism.

This proposal suggests some questions: Is there any evidence that the teaching of "culturally relevant" science and mathematics will draw Mexican-American children to the study of these subjects? Will Mexican-American children lose interest or self-esteem if they discover that their ancestors were Aztecs or Spaniards, rather than Mayans? Are children who learn in this way prepared to study the science and mathematics that are taught in American colleges and universities and that are needed for advanced study in these fields? Are they even prepared to study the science and mathematics taught in *Mexican* universities? If the class is half Mexican-American and half something else, will only the Mexican-American children study in a Mayan and Aztec mode or will all the children? But shouldn't all children study what is culturally relevant for them? How will we train teachers who have command of so many different systems of mathematics and science?

The interesting proposal to teach ethnomathematics comes at a time when American mathematics educators are trying to overhaul present practices, because of the poor performance of American children on national and international assessments. Mathematics educators are attempting to change the teaching of their subject so that children can see its uses in everyday life. There would seem to be an incipient conflict between those who want to introduce real-life applications of mathematics and those who want to teach the mathematical systems used by ancient cultures. I suspect that most mathematics teachers would enjoy doing a bit of both, if there were time or student interest. But any widespread movement to replace modern mathematics with ancient ethnic mathematics runs the risk of disaster in a field that is struggling to update existing curricula. If, as seems likely, ancient mathematics is taught mainly to minority children, the gap between them and middle-class white children is apt to grow. It is worth noting that children in Korea, who score highest in mathematics on international assessments, do not study ancient Korean mathematics.

Particularism is akin to cultural Lysenkoism, for it takes as its premise the spurious notion that cultural traits are inherited. It implies a dubious, dangerous form of cultural predestination. Children are taught that if their ancestors could do it, so could they. But what happens if a child is from a cultural group that made no significant contribution to science or mathematics? Must children find a culturally appropriate field in which to strive? How does a teacher find the right cultural buttons for children of mixed heritage? And how in the world will teachers use this technique when the children in their classes are drawn from many different cultures, as is usually the case? By the time that every culture gets its due, there may

be no time left to teach the subject itself. This explosion of filiopietism (which, we should remember, comes from adults, not from students) is reminiscent of the period some years ago when the Russians claimed that they had invented everything first; as we now know, this nationalistic braggadocio did little for their self-esteem and nothing for their economic development. We might reflect, too, on how little social prestige has been accorded in this country to immigrants from Greece and Italy, even though the achievements of their ancestors were at the heart of the classical curriculum.

In school districts where most children are black and Hispanic, there has been a growing tendency to embrace particularism rather than pluralism. Many of the children in these districts perform poorly in academic classes and leave school without graduating. They would fare better in school if they had well-educated and well-paid teachers, small classes, good materials, encouragement at home and school, summer academic programs, protection from the drugs and crime that ravage their neighborhoods, and higher expectations of satisfying careers upon graduation. These are expensive and time-consuming remedies that must also engage the large society beyond the school. The lure of particularism is that it offers a less complicated anodyne, one in which the children's academic deficiencies may be addressed—or set aside—by inflating their racial pride. The danger of this remedy is that it will detract attention from the real needs of schools and the real interests of children, while simultaneously arousing distorted race pride in children of all races, increasing racial antagonism and producing fresh recruits for white and black racist groups.

The Effects of Particularism

The rising tide of particularism encourages the politicization of all curricula in the schools. If education bureaucrats bend to the political and ideological winds, as is their wont, we can anticipate a generation of struggle over the content of the curriculum in mathematics, science, literature, and history. Demands for "culturally relevant" studies, for ethnostudies of all kinds, will open the classroom to unending battles over whose version is taught, who gets credit for what, and which ethno-interpretation is appropriate.

The spread of particularism throws into question the very idea of American public education. Public schools exist to teach children the general skills and knowledge that they need to succeed in American society, and the specific skills and knowledge that they need in order to function as American citizens. They receive public support because they have a public function. Historically, the public schools were known as "common schools" because they were schools for all, even if the children of all the people did not attend them. Over the years, the courts have found that it was unconstitutional to teach religion in the common schools, or to separate children on the basis of their race in the common schools. In their curriculum, their hiring practices, and their general philosophy, the public schools must not discriminate against or give preference to any racial or ethnic group. Yet they are permitted to accommodate cultural diversity by, for example, serving food that is culturally appropriate or providing library collections that emphasize the interests of the local community. They should not, however, be expected to teach children to view the world through an ethnocentric perspective that rejects or ignores the common culture.

For generations, those groups that wanted to inculcate their religion or their ethnic heritage have instituted private schools—after school, on weekends, or on a full-time basis. There, children learn with others of the same group—Greeks, Poles, Germans, Japanese, Chinese, Jews, Lutherans, Catholics, and so on—and are taught by people from the same group. Valuable as this exclusive experience has been for those who choose it, this has not been the role of public education. One of the primary purposes of public education has been to create a national community, a definition of citizenship and culture that is both expansive and *inclusive*.

The multicultural controversy may do wonders for the study of history, which has been

neglected for years in American schools. At this time, only half of our high school graduates ever study any world history. Any serious attempt to broaden students' knowledge of Africa, Europe, Asia, and Latin America will require at least two, and possibly three, years of world history (a requirement thus far only in California). American history, too, will need more time than the one-year high-school survey course. Those of us who have insisted for years on the importance of history in the curriculum may not be ready to assent to its redemptive power, but hope that our new allies will ultimately join a constructive dialogue that strengthens the place of history in the schools.

Some Solutions

As cultural controversies arise, educators must adhere to the principle of "E Pluribus Unum." That is, they must maintain a balance between the demands of the one—the nation of which we are common citizens—and the many—the varied histories of the American people. It is not necessary to denigrate either the one or the many. Pluralism is a positive value, but it is also important that we preserve a sense of an American community—a society and a culture to which we all belong. If there is no overall community with an agreed-upon vision of liberty and justice; if all we have is a collection of racial and ethnic cultures, lacking any common bonds, then we have no means to mobilize public opinion on behalf of people who are not members of our particular group. We have, for example, no reason to support public education. If there is no larger community, then each group will want to teach its own children in its own way, and public education ceases to exist.

History should not be confused with filiopietism. History gives no grounds for race pride. No race has a monopoly on virtue. If anything, a study of history should inspire humility, rather than pride. People of every racial group have committed terrible crimes, often against others of the same group. Whether one looks at the history of Europe or Africa or Latin America or Asia, every continent offers examples of inhumanity. Slavery has existed in civilizations around the world for centuries. Examples of genocide can be found around the world, throughout history, from ancient times right through to our own day. Governments and cultures, sometimes by edict, sometimes simply following tradition, have practiced not only slavery, but human sacrifice, infanticide, cliterodectomy, and mass murder. If we teach children this, they might recognize how absurd both racial hatred and racial chauvinism are.

What must be preserved in the study of history is the spirit of inquiry, the readiness to open new questions and to pursue new understandings. History, at its best, is a search for truth. The best way to portray this search is through debate and controversy, rather than through imposition of fixed beliefs and immutable facts. Perhaps the most dangerous aspect of school history is its tendency to become Official History, a sanctified version of the Truth taught by the state to captive audiences and embedded in beautiful mass-market textbooks as holy writ. When Official History is written by committees responding to political pressures, rather than by scholars synthesizing the best available research, the errors of the past are replaced by the politically fashionable errors of the present. It may be difficult to teach children that history is both important and uncertain, and that even the best historians never have all the pieces of the jigsaw puzzle, but it is necessary to do so. If state education departments permit the revision of their history courses and textbooks to become an exercise in power politics, the entire process of state-level curriculum-making becomes suspect, as does public education itself.

The question of self-esteem is extraordinarily complex, and it goes well beyond the content of the curriculum. Most of what we call self-esteem is formed in the home and in a variety of life experiences, not only in school. Nonetheless, it has been important for blacks—and for other racial groups—to learn about the history of slavery and of the civil rights movement; it has been important for blacks to know that their ancestors actively resisted enslavement and actively

pursued equality; and it has been important for blacks and others to learn about black men and women who fought courageously against racism and who provide models of courage, persistence, and intellect. These are instances where the content of the curriculum reflects sound scholarship, and at the same time probably lessens racial prejudice and provides inspiration for those who are descendants of slaves. But knowing about the travails and triumphs of one's forebears does not necessarily translate into either self-esteem or personal accomplishment. For most children, self-esteem—the self-confidence that grows out of having reached a goal—comes not from hearing about the monuments of their ancestors but as a consequence of what they are able to do and accomplish through their own efforts.

As I reflected on these issues, I recalled reading an interview a few years ago with a talented black runner. She said that her model is Mikhail Baryshnikov. She admires him because he is a magnificent athlete. He is not black; he is not female; he is not American-born; he is not even a runner. But he inspires her because of the way he trained and used his body. When I read this, I thought how narrow-minded it is to believe that people can be inspired *only* by those who are exactly like them in race and ethnicity. ■

What Do I Do Now? A Teacher's Guide to Including Students with Disabilities

Michael F. Giangreco

As students with disabilities are increasingly being placed in general education classrooms, teachers are asking many legitimate questions about what to do about their instruction and how to do it. For the past seven years, I've consulted with teachers, administrators, support personnel, and families who are grappling with these concerns. I've also joined with colleagues in conducting 12 research studies at some of these schools. The following suggestions are concrete actions to consider as you pursue success for both students with disabilities and their classmates.

1. Get a Little Help from Your Friends

No one expects teachers to know all the specialized information about every disability, or to do everything that may be necessary for a student with disabilities.

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Thus, in schools where students with disabilities are successful in general education classes, teams usually collaborate on individualized educational programs. Team members often include the student and his or her parents, general educators, special educators, para-educators, and support staff, such as speech and language pathologists, and physical therapists. And don't forget: each classroom includes some 20–30 students who are creative and energetic sources of ideas, inspiration, and assistance.

Although teamwork is crucial, look out for some common problems. When groups become unnecessarily large and schedule too many meetings without clear purposes or outcomes, communication and decision making get complicated and may overwhelm families. Further, a group is not necessarily a team, particularly if each specialist has his or her own goals. The real team shares a single set of goals that team members pursue in a coordinated way.

2. Welcome the Student in Your Classroom

Welcoming the student with disabilities may seem like a simple thing to do, and it is. But you'd be surprised how often it doesn't happen. It can be devastating for such a student (or any student) to feel as if he or she must earn the right to belong by meeting an arbitrary standard that invariably differs from school to school.

Remember, too, that your students look to you as their primary adult model during the school day. What do you want to model for them about similarities and differences, change, diversity, individuality, and caring?

So when children with disabilities come to your classroom, talk with them, walk with them, encourage them, joke with them, and teach them. By your actions, show all your students that the child with disabilities is an important member of your class and, by extension, of society.

3. Be the Teacher of All the Students

When a student with disabilities is placed in a general education class, a common practice is for the teacher to function primarily as a host rather than a teacher. Many busy teachers actually embrace this notion because it means someone else is responsible for that student. Many teachers, in fact, think of these students as the responsibility of the special education teacher or para-educator.

Merely hosting a student with disabilities, however, doesn't work very well (Giangreco et al. 1992). Inevitably, these other professionals will work with the student, and the "host" will end up knowing very little about the student's educational program or progress. This perpetuates a lack of responsibility for the student's education and often places important curricular and instructional decisions in the hands of hardworking, but possibly underqualified, paraprofessionals.

Be flexible, but don't allow yourself to be relegated to the role of an outsider in your own classroom. Remember that teachers who successfully teach students without disabilities have the skills to successfully teach students with disabilities (Giangreco et al. 1995).

4. Make Sure Everyone Belongs to the Classroom Community

How, where, when, and with whom students spend their time is a major determinant of their affiliations and status in the classroom (Stainback and Stainback 1996). Too often, students with disabilities are placed with mainstream students, but take part in different activities and have different schedules from their peers. These practices inhibit learning with and from classmates, and may contribute to social isolation.

To ensure that students with disabilities are part of what's happening in class, seat them with their classmates, and at the same kind of desk, not on the fringe of the class.

Make sure, too, that the student participates in the same activities as the rest of the class, even though his or her goals may be different. If the class is writing a journal, the student with a disability should be creating a journal, even if it's in a nonwritten form. If you assign students homework, assign it to this student at an appropriate level. In like manner, if the class does a science experiment, so should this student. Although individualization and supports may be necessary, the student's daily schedule should allow ample opportunities to learn, socialize, and work with classmates.

5. Clarify Shared Expectations with Team Members

One of the most common sources of anxiety for classroom teachers is not understanding what other team members expect them to teach. "Do I teach this student most of or all of what I'm teaching the other students?" Sometimes the answer will be yes, sometimes no. In either case, team members must agree on what the student should learn and who will teach it.

To do this, the team should identify a few of the student's learning priorities, as well as a larger set of learning outcomes as part of a broad educational program. Doing so will clarify which parts of the general curriculum the student will be expected to pursue and may include learning outcomes that are not typically part of the general program.

Many students with disabilities also need supports to participate in class. These supports should be distinguished from learning outcomes. If the supports are inadvertently identified as learning outcomes, the educational program may be unnecessarily passive.

Finally, on a one- or two-page program-at-a-glance, summarize the educational program, including, for example, priority learning outcomes, additional learning outcomes, and necessary supports (Giangreco et al. 1993). This concise list will help the team plan and schedule, serve as a reminder of the student's individual needs, and help you communicate those needs to teachers in special areas, such as art, music, and physical education. By clarifying what the team expects

the student to learn, you set the stage for a productive school year.

6. Adapt Activities to the Student's Needs

When the educational needs of a student with disabilities differ from those of the majority of the class, teachers often question the appropriateness of the placement. It's fair to ask, for example, why an 11-year-old functioning at a 2nd grade level is placed in a 6th grade class.

The answer is that such a student can still have a successful educational experience. In fact, many schools are purposely developing multigrade classrooms, where teachers accommodate students with a wide range of abilities.

When a student's needs differ from other members of the class, it is important to have options for including that student in activities with classmates. In some cases, the student requires instructional accommodations to achieve learning outcomes within the same curriculum area as his or her classmates, but at a different level.

The student might need to learn, for example, different vocabulary words, math problems, or science concepts. Or the student may be pursuing learning outcomes from different curriculum areas. For example, during a science activity, the student could be learning communication, literacy, or socialization skills, while the rest of the class focuses on science.

7. Provide Active and Participatory Learning Experiences

I've heard teachers of students with disabilities say, "He wouldn't get much out of being in that class because the teacher does a lot of lecturing, and uses worksheets and paper-and-pencil tests." My first reaction is, "You're right, that situation doesn't seem to match the student's needs." But then I wonder, Is this educational approach also a mismatch for students without disability labels?

Considering the diversity of learning styles, educators are increasingly questioning whether passive, didactic approaches meet their students' needs. Activity-based learning, on the other hand, is well suited to a wide range of students. The presence of a student with disabilities may simply highlight the need to use more active and participatory approaches, such as individual or cooperative projects and use of art media, drama, experiments, field study, computers, research, educational games, multimedia projects, or choral responding (Thousand et al. 1994). Interesting, motivating activities carry an added bonus—they encourage positive social behaviors, and can diminish behavior problems.

8. Adapt Classroom Arrangements, Materials, and Strategies

Alternate teaching methods or other adaptations may be necessary. For example, if a group lecture isn't working, try cooperative groups, computer-assisted instruction, or peer tutoring. Or make your instruction more precise and deliberate.

Adaptations may be as basic as considering a different way for a student to respond if he or she has difficulty speaking or writing, or rearranging the chairs for more proximity to peers or access to competent modeling.

You may also have to adapt materials. A student with visual impairments may need tactile or auditory cues. A student with physical disabilities may require materials that are larger or easier to manipulate. And a student who is easily bored or distracted may do better with materials that are in line with his or her interests.

Rely on the whole team and the class to assist with adaptation ideas.

9. Make Sure Support Services Help

Having many support service personnel involved with students can be a help or a hindrance. Ideally, the support staff will be competent and collaborative, making sure that what they do prevents

disruptions and negative effects on students' social relationships and educational programs. They will get to know the students and classroom routines, and also understand the teacher's ideas and concerns.

Teachers can become better advocates for their students and themselves by becoming informed consumers of support services. Learn to ask good questions. Be assertive if you are being asked to do something that doesn't make sense to you. Be as explicit as you can be about what type of support you need. Sometimes you may need particular information, materials, or someone to demonstrate a technique. Other times, you may need someone with whom to exchange ideas or just validate that you are headed in the right direction.

10. Evaluate Your Teaching

We commonly judge our teaching by our students' achievements. Although you may evaluate students with disabilities in some of the same ways as you do other students (for example, through written tests, reports, or projects), some students will need alternative assessment, such as portfolios adapted to their needs.

Often it is erroneously assumed that if students get good grades, that will translate into future educational, professional, and personal success. This is a dangerous assumption for any student, but particularly for those with disabilities. Although traditional tests and evaluations may provide certain types of information, they won't predict the impact of your teaching on the student's post-school life. Unfortunately, far too many graduates with disabilities are plagued by unemployment, health problems, loneliness, or isolation—despite their glowing school progress reports.

We need to continually evaluate whether students are applying their achievements to real life, by looking at the effects on their physical and emotional health, personal growth, and positive social relationships; and at their ability to communicate, advocate for themselves, make informed choices, contribute to the community, and increasingly access places and activities that are personally meaningful. The aim is to ensure that our teaching will make a real difference in our students' lives. ■

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School Reform and Student Diversity

Catherine Minicucci, Paul Berman, Barry McLaughlin, Beverly McLeod, Beryl Nelson, and Kate Woodworth

About one in seven of the nation's 5- to 17-year-olds speaks a home language other than English, and the number of such young people is growing.[1] During the 1980s the number of students considered to be limited English proficient (LEP) grew 2½ times faster than the general school enrollment.[2] LEP students are concentrated in large urban areas in a few states—California, New York, Texas, Florida, Illinois, and New Jersey—and in the rural areas of the Southwest.[3]

Nearly all language-minority students are also poor, and many are members of racial or ethnic minority groups as well. Most LEP children live in communities beset by poverty and violence and offering limited economic opportunity. LEP children attending public schools frequently do not have access to adequate nutrition, housing, or health and dental care. The misconnections between the school and the community, coupled with the lack of economic opportunity, create an atmosphere of alienation between the home and the school. For their part, schools cannot predict the numbers, literacy levels, or previous school experience of incoming immigrant students.

It should not be surprising, then, that children who come from cultural- and linguistic-minority backgrounds often founder in American schools. By the time they enter high school, many still lack a solid grounding in reading, writing, mathematics, and science. Moreover, most secondary schools do not offer an academic program in science, math, or social studies that is geared toward LEP students.[4] While dropout rates are not tallied for LEP students per se, it is clear that LEP students in some ethnic groups are dropping out of school at a high rate. The dropout rate for Hispanic immigrants is estimated to be 43%.[5] As young adults, many LEP students are inadequately prepared for higher education or high wage/high skill employment.

Recent reports have called for making the needs of LEP students more central to the national school reform effort. At a time when America seeks to reform its schools so that all students meet high standards, the challenge of educating language-minority students assumes even greater importance. But many schools undergoing restructuring fail to include LEP students in their attempts to revitalize their curriculum and instruction.[6]

There are schools that have made significant breakthroughs in educating LEP students, however.[7] In our study of student diversity, we examined eight such exemplary school reform efforts for language-minority students in grades 4 through 8 in language arts, science, or mathematics.[8] We identified theory-based and practice-proven strategies that effectively teach language arts, mathematics, and science to students from linguistically and culturally diverse backgrounds.[9]

At the time this article was written, Catherine Minicucci was head of Minicucci Associates, Sacramento, California; Paul Berman was president of BW Associates, Berkeley, California; Barry McLaughlin was director of the National Center for Research on Cultural Diversity and Second Language Learning, University of California, Santa Cruz; Beverly McLeod was a research affiliate at the National Center; Beryl Nelson was senior researcher at BW Associates; and Kate Woodworth was a researcher at BW Associates. Minicucci, Catherine, Paul Berman, Barry McLaughlin, Beverly McLeod, Beryl Nelson, and Kate Woodworth, "School Reform and Student Diversity," *Phi Delta Kappan*, September 1995. Copyright © 1995 by Phi Delta Kappa. Reprinted by permission of authors and publisher.

Solutions Found in Exemplary Schools

The case studies of eight exemplary schools demonstrate that, while they are becoming literate in English, LEP students can learn the same curriculum in language arts, science, and math as native English speakers. The success of these schools challenges the assumption that students must learn English first, before they learn grade-level science or math. The elements that come together in these schools are 1) a schoolwide vision of excellence that incorporates LEP students and embraces the students' language and culture, 2) the creation of a community of learners engaged in active discovery, and 3) well-designed and carefully executed programs to develop LEP students' skills in English and in their native languages.

While the vision of each exemplary school we studied was unique, they all held high expectations for the learning and personal development of LEP students. The exemplary sites developed a meaningful curriculum that made connections across disciplines, built real-life applications into the curriculum, related the curriculum to student experiences, and emphasized depth of understanding rather than breadth of knowledge. Schools relied on thematic learning that connected science, math, social science, and language arts and validated students' cultural and linguistic backgrounds. Working in teams, teachers developed, assessed, and refined thematic units over a period of years.

The exemplary schools used innovative approaches to help LEP students become independent learners who could take responsibility for their own learning. Teachers understood that they were not the sole sources of information and wisdom, and they acted as facilitators for student learning. The students were the center of classroom activity; they collaborated with their peers and teachers in the processes of inquiry and active discovery. Students understood what was expected of them and viewed each other as resources for learning.

Cooperative learning was used extensively in all eight of the exemplary schools. Cooperative learning strategies are particularly effective with LEP students because they provide opportunities for students to produce language in a setting that is less threatening than speaking before the entire class. Cooperative learning groups promote the development of language related to a subject area, which serves the dual purpose of developing language skills and enhancing understanding of core content.

All the schools were "parent friendly" and welcomed parents in innovative ways. The schools were also "family friendly," and some took unusual steps to bring health care, dental care, counseling, and social services onto their campuses to serve the families of students. The schools embraced the cultural and linguistic backgrounds of students by employing bilingual staff members, by communicating with parents in their native language when necessary, by honoring the multicultural quality of the student population, and by ensuring a safe school environment. The value placed on students' culture pervaded the classroom curriculum, whether taught in the student's native language or in sheltered English.

In order to build consensus through broad-based decision making, the exemplary schools developed new governance structures involving teachers, parents, and community members. The teachers in the exemplary schools were treated as professionals, encouraged to learn from one another, and given the time to develop programs. The schools used the findings of educational research to hone their approaches, and they sought assistance from external partners in curriculum development and professional development. In schools with exemplary science programs, external partners played a very important role in adapting innovative science curriculum materials for LEP students.

The exemplary schools created smaller school organizations, such as "families" or "houses," that strengthened the connections among students and teachers alike. Smaller school units set the stage for cross-disciplinary instruction and enhanced teachers' sense of commitment by allowing them to focus on a smaller group of students. One exemplary school kept students together with the same teacher for five years. This continuity offers

distinct advantages to students who are learning English. Gaps in student learning between grades taught by different teachers were avoided. Parent involvement was enhanced. LEP students in such long-term "continuum" classes became skilled at cooperative learning, were highly responsible for their own learning tasks, and built a remarkable level of academic self-confidence.

The exemplary schools used time in inventive ways. For the most part, teachers controlled their own daily schedules, and they zealously protected students' time to learn. Several exemplary schools extended the school day and year. This added student learning time and freed time for teacher collaboration and professional development. LEP students making the transition to English instruction need additional time to learn, and the schools meet that need through Saturday programs, summer programs, and after-school tutorials.

Exemplary schools paid special attention to the main goal, which is helping students achieve English literacy. The schools used qualified faculty members fluent in the native language of students and trained in second-language learning. Teachers had the flexibility to tailor transitional paths to meet each child's needs. The schools had more than one program path for students to move to English literacy. In these schools native language literacy was universally regarded as a critical foundation for successful attainment of English literacy. The exemplary schools made special academic support (through homework clubs or after-school tutorials) available to LEP students when they were mainstreamed into all-English classes.[10]

The stories of two of these schools will illustrate the dynamic quality of the interplay of school reform, high-quality language development programs, and challenging curriculum for LEP students.

Inter-American School

Inter-American School is a public school enrolling 650 Chicago students from prekindergarten to eighth grade. It was founded in 1975 by a small group of parents and teachers as a bilingual preschool under the auspices of the Chicago Public Schools. The parents and teachers envisioned a multicultural school in which children would be respected as individuals and their languages and cultures would be respected as well.

Today, the school is a citywide magnet school whose students are 70% Hispanic, 13% African American, and 17% white. The developmental bilingual program at the school has the goal of bilingualism and biliteracy for all students including native speakers of English. At all grade levels, English-dominant and Spanish-dominant students are assigned to classrooms in roughly equal proportions. In prekindergarten, all core subjects are taught in Spanish to all students. Spanish-dominant students take English as a second language, and English-dominant students take Spanish as a second language. An 80/20 ratio of Spanish to English instruction remains through third grade; then English instruction is gradually increased to 50/50 by eighth grade. Students enrolled in fifth and sixth grades at Inter-American School are fully bilingual and biliterate in Spanish and English.

Much of the school's curriculum is integrated across the disciplines and built around themes that reflect the history, culture, and traditions of students. The school emphasizes the study of the Americas and Africa, especially how African history and culture have influenced the Americas. Teachers at each grade level work together to develop their curriculum around themes. For example, fourth-grade teachers use a thematic unit on Mayan civilization to integrate content across the curriculum. In social studies, students study the geographic spread of Mayan civilization, Mayan religion, and Mayan cultural traditions. In science, students study Mayan architecture and agriculture. In language arts, they read and write stories about the Mayans. A volunteer parent taught an art lesson in which students painted Mayan gods. The unit began with a visit to the Field Museum to see an exhibit on Mayan culture, architecture, and religion.

Throughout the year teachers work together intensively in groups that span two grade levels.

The teachers at prekindergarten and kindergarten, grades 1 and 2, and so on, plan together, exchange students across grade levels and classrooms, and work together on thematic units.

Like other Chicago schools, Inter-American School has a local school council that sets school policies, hires and evaluates the principal, interviews prospective teachers, and controls the school budget. the professional personnel advisory committee, made up entirely of faculty members, sets priorities and takes responsibility for the instructional program.

Hanshaw Middle School

Hanshaw Middle School serves 860 sixth- through eighth-graders from a predominantly low-income Latino community in Modesto, California. It opened in the fall of 1991. The Hanshaw student body is roughly 56% Hispanic, 26% white, 11% Asian, and 5% African American. After interviewing 500 families in their homes, the principal and faculty agreed on four principles for the foundation of Hanshaw's program: high expectations for all students, support for the Latino and Chicano experience, a meaning-centered curriculum, and a conscious effort to impart life skills as part of the curriculum. The principal recruited teachers from industry—for example, a former museum director teaches science, and a former wildlife biologist teaches science. Life skills such as patience, flexibility, integrity, initiative, and effort are taught at the start of each school year. Students are rewarded throughout the year for demonstrating life skills.

Hanshaw is organized into five houses, each named for a campus of the California State University system. Each house is made up of from six to nine teachers, led by a team leader. Teams of two teachers (one for the math/science core and one for the language arts/social studies core) teach groups of 30 to 35 students. All students take two 90-minute core classes, one for math/science and one for language arts/social studies. Each year students visit the college campus their house is named after, meet college students from various ethnic backgrounds, hear lectures, and receive a T-shirt and a "diploma." Students identify strongly with the college campus, which provides them with an alternative to gang affiliation. Teachers within each house make decisions about the school's budget.

The curriculum design decisions that Hanshaw teachers make are based on a simple principle: every lesson or skill must be relevant to the students' lives. Teachers strive to help students know the "why" of an answer or of multiple answers or to help them understand multiple ways of getting to an answer. Teachers build on students' own experiences in thematic instruction. Themes unify instruction across science, math, language arts, and social studies, incorporating topics from the California curriculum frameworks.

Hanshaw offers several programs for LEP students: instruction in Spanish in core curricular areas, sheltered instruction for advanced Spanish-speaking LEP students and students who speak other primary languages, and mainstream English instruction for clusters of LEP students who speak the same first language. When LEP students are considered ready to move to full English instruction, they are clustered together in mainstream classes. Many of the teachers of mainstream classes have special training and credentials in second-language acquisition.

Hanshaw teachers use a constructivist approach to teaching math. A mainstream eighth-grade algebra class we observed included 15 LEP students. The math teacher is a former carpenter who had training in second-language acquisition. The spatial math lesson she was conducting challenged students to modify the profile of a building and to graph that profile. Students working in cooperative groups used Lego blocks to re-create the profile in three dimensions. The teacher's role was to set up the challenge and to facilitate the work of cooperative student groups in solving the problem. When students finished the assignment, she asked them to solve it another way. LEP

students speaking the same language worked together in both English and their native language in their cooperative groups.

Hanshaw's program is supported by a vigorous relationship with an external partner, Susan Kovalik and Associates from the state of Washington; that partner works with Hanshaw faculty members in intensive summer and weekend retreats. A Kovalik coach assists the school on a monthly basis, designing curriculum, providing instructional coaching, and helping the faculty identify problems and solutions. The school uses both state and federal funds to purchase assistance from Kovalik. Hanshaw also has a comprehensive health and social services center on campus that is staffed by social workers and counselors who are bilingual in Spanish and English.

These two schools provide concrete examples of the broader solutions listed above. Both schools have a schoolwide vision that incorporates high standards for LEP students. Both schools take a number of concrete steps to validate and honor the languages and cultures of their students. Both schools teach challenging academic content to LEP students in their native languages. Both schools use the thematic approach to deliver a meaning-centered curriculum that relates to students' life experiences. And teachers at both schools take responsibility for making decisions about the uses of resources and time.

Exemplary schools, such as Inter-American and Hanshaw, illustrate the way such concepts of school reform as smaller school organizations, protected time for learning, thematic instruction, and teacher collaboration can be harnessed to meet the needs of LEP students. They demonstrate that high-quality LEP programs, which include the development of native language literacy, are certainly compatible with learning science and math through active discovery. The dynamic interplay of greater school autonomy, protected time to learn for smaller groups of students with a small group of teachers, intensive professional development, and development of LEP students' literacy in English and in their native languages holds the promise for success in educating growing numbers of LEP students. ■

Notes

1. General Accounting Office, "Limited English Proficiency: A Growing and Costly Educational Challenge Facing Many School Districts," Report to the Chairman, Committee on Labor and Human Resources, U.S. Senate, Washington, D.C., January 1994; and Diane August and Kenji Hakuta, *Federal Educational Programs for Limited-English-Proficient Students: A Blueprint for the Second Generation* (Stanford, Calif.: Stanford Working Group, 1993).

2. Cynthia A. Chavez, "'State of the Play' in Educational Research on Latino/Hispanic Youth," unpublished manuscript, Rockefeller Foundation, New York, N.Y., May 1991. The phrase "limited English proficient" is used to refer to students whose home language is other than English and who have been determined, using tests of oral English fluency, to require special instruction in order to acquire sufficient English skills to participate in all English instruction.

3. *Numbers and Needs: Ethnic and Linguistic Minorities in the United States*, newsletter published by Dorothy Waggoner, Washington, D.C., May 1992; and Lorraine M. McDonnell and Paul T. Hill, *Newcomers in American Schools: Meeting the Education Needs of Immigrant Youth* (Santa Monica, Calif.: RAND Corporation, 1993).

4. Catherine Minicucci and Laurie Olsen, *Programs for Secondary Limited English Proficient Students: A California Study, Focus #5* (Washington, D.C.: National Clearinghouse for Bilingual Education, 1992).

5. *School Success for Limited English Proficient Students: The Challenge and State Response* (Washington, D.C.: Resource Center on Educational Equity, Council of Chief State School Officers, 1990).

6. Laurie Olsen et al., *The Unfinished Journey: Restructuring Schools in a Diverse Society* (San Francisco: California Tomorrow, 1994).

7. See Paul Berman et al., *Meeting the Challenge of Language Diversity*, 5 vols. (Berkeley, Calif.: BW Associates, February 1992).

8. The eight exemplary schools selected after an extensive nationwide search are: Del Norte Heights Elementary School, Ysleta Independent School District (El Paso); Hollibrook Elementary School, Spring Branch Independent School District (Houston); Linda Vista Elementary School, San Diego Unified School District; Inter-American School, Chicago Public Schools; Graham and Parks Alternative School, Cambridge (Mass.) School District; Evelyn

Hanshaw Middle School, Modesto (Calif.) City Schools; Horace Mann Middle School, San Francisco Unified School District; and Charles Wiggs Middle School, El Paso Independent School District.

9. *School Reform and Student Diversity,* 3 vols. (Santa Cruz: National Center for Research on Cultural Diversity and Second Language Learning, University of California, in collaboration with BW Associates, September 1995).

10. We conducted focus groups with LEP students who had made the transition to all-English instruction. The students told us that they relied on their bilingual teachers, their older siblings, and their English-speaking peers in learning English and that they benefited from the after-school tutorial opportunities, summer programs, and extracurricular opportunities.

Shortchanging Girls and Boys

Susan McGee Bailey

Recently gender equity in education has become a hot, or at least a "reasonably warm," topic in education. Higher education institutions across the country are under renewed pressure to provide equal athletic opportunities for female students. The U.S. Supreme Court is considering cases involving the admission of women to all-male, state-supported military institutions. And the continued underrepresentation of women in tenured faculty positions is prompting many donors to withhold contributions to Harvard University's fundraising campaign.

But it is at the elementary and secondary school levels that the shortchanging of girls has been most extensively documented (Wellesley College Center for Research on Women 1992, AAUW 1995, Orenstein 1994, Sadker and Sadker 1994, Thorne 1993, Stein et al. 1993). Twenty-four years after the passage of Title IX—which prohibits discrimination on the basis of sex in any educational programs receiving federal funds—girls and boys are still not on equal footing in our nation's classrooms. Reviews of curricular materials, data on achievement and persistence in science, and research on teacher-to-student and student-to-student interaction patterns all point to school experiences that create significant barriers to girls' education. These factors have fostered widespread discussion and action among parents, educators, and policymakers.

Susan McGee Bailey is director of the Wellesley Center for Research on Women at Wellesley College, Wellesley, MA. Susan McGee Bailey, "Shortchanging Girls and Boys," *Educational Leadership*, May 1996, pp. 75–79. Reprinted by permission of the author.

Barriers to Gender Equitable Education

As the principal author of the 1992 study, *How Schools Shortchange Girls*, I have followed the discussion with considerable interest and mounting concern. The central problem posed in the opening pages of this report continues to be ignored in our discussions of public K–12 education

> [There are] critical aspects of social development that our culture has traditionally assigned to women that are equally important for men. Schools must help girls *and* boys acquire both the relational and the competitive skills needed for full participation in the workforce, family, and community (Wellesley College Center for Research on Women 1992, p. 2).

Too much of the discussion and too many of the proposed remedies rely on simplistic formulations that obscure, rather than address, the complex realities confronting our society.

First among these are the assumptions that 1) gender equity is something "for girls only" and 2) if the situation improves for girls, boys will inevitably lose. These constructions are dangerously narrow and limit boys as well as girls. Gender equity is about enriching classrooms, widening opportunities, and expanding choices for all students.

The notion that helping girls means hurting boys amounts to a defense of a status quo that we all know is serving too few of our students well. Surely it is as important for boys to learn about the contributions of women to our nation as it is for girls to study this information. Surely adolescent pregnancy and parenting are issues for young men as well as young women. And surely boys as well as girls benefit from instructional techniques that encourage cooperation in learning.

A second set of assumptions concern the single-sex versus coed dichotomy. During discussions of gender equity, rarely does anyone

stop to consider that coeducation, as the term is generally used, implies more than merely attending the same institution. It is usually assumed to mean a balanced experience as compared to an exclusive, one-sided, single-sex, all-female or all-male one. Thus the term itself undercuts our ability to achieve genuine coeducation by implying that it already exists.

We would do better to describe U.S. public elementary and secondary education as mixed-sex education rather than as coeducation. Girls and boys are mixed together in our schools, but they are not receiving the same quality or quantity of education—nor are they genuinely learning from and about each other. Our task is to find ways to provide the gender equitable education the term coeducation promises, but does not yet deliver.

Lessons from All-Girl Schools

It may indeed be easier in an all-girl setting both to value skills, career fields, and avocations generally considered feminine *and* to encourage girls in nontraditional pursuits. Pressures on students from peers, from popular culture, and even from many adults around them all define gender stereotypic behavior as normal, expected, and successful. Particularly for young adolescents, the clarity of these stereotypes can be reassuring; questioning them can be uncomfortable and risky. In a world where being labeled a "girl" is the classic insult for boys, single-sex environments for girls can provide a refuge from put-downs and stereotypes.

But these environments may also send messages that can perpetuate rather than eliminate negative gender stereotyping. Removing girls from classes in order to provide better learning opportunities for them can imply that girls and boys are so different that they must be taught in radically different ways. When all-girl classes are set up specifically in science or math, an underlying, if unintended, message can be that girls are less capable in these subjects. Separating boys from girls in order to better control boys' behavior can indicate that boys are "too wild" to control.

Rather than assuming that we must isolate girls in order to protect them from boys' boisterous, competitive behavior—or that boys will be unduly feminized in settings where girls are valued and comfortable—we must look carefully at why some students and teachers prefer single-sex settings for girls. We must understand the positive aspects of these classrooms in order to begin the difficult task of bringing these positive factors into mixed-sex classes.

In U.S. public schools, this is not only a matter of good sense, but it is a matter of law. Title IX permits single-sex instruction only in very specific situations.[1] In doing so, we will be moving toward genuinely coeducational environments where the achievements, perspectives, and experiences of both girls and boys, women and men, are equally recognized and rewarded whether or not they fall into traditional categories.

How to Eliminate Barriers

As long as the measures and models of success presented to students follow traditional gender stereotypes and remain grounded in a hierarchy that says paid work is always and absolutely more important and rewarding than unpaid work, that the higher the pay the more valuable the work *and* the worker who does it, we will be unfairly limiting the development of, and the opportunities available to, all our students. Gender equitable education is about eliminating the barriers and stereotypes that limit the options of *both* sexes. To move in this direction, we need to take three major steps.

1. *We must acknowledge the gendered nature of schooling.* Schools are a part of society. Educators cannot single-handedly change the value structure we ourselves embody, but we can acknowledge and begin to question the ways in which gender influences our schooling. *How Schools Shortchange Girls* points out that the emotions and the power dynamics of sex, race, and social class are all present, but evaded, aspects of our classrooms. We can begin to change this by fostering classroom discussions that explicitly

include these issues and that value expressions of feelings as well as recitations of facts.

2. *We must take a careful look at our own practices.* Years ago as a first-year teacher, I was proud of my sensitivity to the needs of my 6th graders. I carefully provided opportunities for boys to take part in class discussions and lead group projects in order to channel their energies in positive ways. I was equally careful to ensure that two very shy, soft-spoken girls never had to be embarrassed by giving book reports in front of the class.

Only much later did I realize that rather than helping the boys learn cooperative skills, I may merely have reinforced their sense that boys act while girls observe, and that I may have protected the girls from exactly the experiences they needed in order to overcome their initial uncertainties. Further, in protecting the girls, I also deprived the boys of opportunities to learn that both girls and boys can take the risks and garner the rewards of speaking up in class and speaking out on issues.

One technique that teachers can use to gain a picture of their classes is to develop class projects in which students serve as data collectors. Students are keen observers of the world around them. Having them keep a record of who is taking part in class can serve as a springboard for important discussions. These discussions can raise everyone's awareness of classroom dynamics, dynamics sometimes so ingrained that they have become invisible.

3. *We must learn from all-girl environments about teaching techniques and curricular perspectives that have particular appeal to girls and determine how to use these approaches successfully in mixed-sex classes.* In talking with teachers working in all-girl environments, I hear three frequent suggestions: 1) place less emphasis on competition and speed and more emphasis on working together to ensure that everyone completes and understands the problem or project; 2) place more emphasis on curricular materials that feature girls and women; and 3) increase the focus on practical, real-life applications of mathematics and the sciences.

Three Practical Suggestions

Teachers can apply these three suggestions in mixed-sex settings. The first is the most difficult. What appears to happen naturally in all-girl settings—for example, girls' working together in an environment where they feel empowered to set the pace—must be deliberately fostered in settings where a different style has been the norm. Girls and their teachers speak of all-girl classes as places where fewer students shout out answers and interrupt one another. Teachers indicate that they deliberately work to ensure that all girls take some active part in class activities. If teachers can directly address these factors in an all-girl setting, surely we can begin to address them in mixed-sex settings.

Further, teachers must experiment with instructions and with reward systems that will encourage students to value a thorough understanding of a task as well as a quick answer, and of group success as well as individual performance. In doing so, we will be encouraging strengths many girls have developed and helping boys acquire skills that they need.

The second suggestion is also not without difficulties when transported to mixed-sex settings. As television producers have discovered, girls may watch programs with male characters, but programs featuring girls are less likely to attract or hold boys' interests. But schools are places where students come to learn. Boys *and* girls need to learn to appreciate and value the accomplishments of women and women's groups who have succeeded in traditionally male fields: Shirley Chisholm, Indira Gandhi, Sally Ride, the Women's Campaign Fund, as well as those whose success has been in traditionally female areas of employment and avocation: Jane Addams, Mary McLeod Bethune, the Visiting Nurses Association.

In *Natural Allies, Women's Associations in American History,* Anne Firor Scott notes that "by the 1930s the landscape was covered with libraries, schools, colleges, kindergartens, museums, health clinics, houses of refuge, school lunch programs, parks, playgrounds, all of which owed their existence to one or several women's societies" (1991,

p. 3). Our students—male and female—need to learn more of this work if they are to grow into adults who can carry on activities vital to our survival as a viable, humane society.

The third factor is perhaps the least problematic. Although girls may be most enthusiastic about pursuing science when they see it as relevant to daily life, boys will surely not be less interested when presented with more relevance! For teachers to develop new lesson plans and materials in the sciences, however, will require increased support from school administrators and school boards for professional development, new materials and equipment, and perhaps a reorganization of class time.

Operation Smart, an after-school informal science program for girls developed by Girls, Inc., is just one example of new relevant science programs. A unit on water pollution, for example, offers middle school and junior high school girls an opportunity to study the effects of pollution in their own communities and to gain an understanding of the value of scientific knowledge and procedures in improving living conditions (Palmer 1994).

Mixed-sex classes can easily adapt such projects, and many have. Last year my nieces, both middle school students in mixed-sex classes in Mystic, Connecticut, eagerly showed me their science projects. Sarah's, done with her close friend Caitlin, contained several different pieces of cloth, each of which had been put through a series of trials: burned, washed, stretched, and frozen. "We thought the synthetic pieces of cloth would be stronger, but they weren't! Now we know natural material is very tough."

Aidan, a year older, collected samples of river water at points varying in distance from the mouth of the Mystic River where it joins the salt water of Fisher's Island Sound. Expecting that the water would be less salty the farther away it was from the Sound, she was surprised to find that her graph was not a straight line: a very salty sample appeared at a point quite far upriver. Trying to figure out what might account for this became the most interesting aspect of the project. For both Sarah and Aidan, science is about their own questions, not out of a book or in a laboratory and it is certainly not a boys-only activity!

Moving Beyond Stereotypes

As we move into a new century, we must leave behind our boys-only and girls-only assumptions and stereotypes. On any given measure of achievement or skill, we can find greater similarity between the average score of girls as a group and the average score of boys as a group than we can find when comparing among individual girls or among individual boys. We must no longer allow stereotypic assumptions to guide our expectations or obscure the reality that empathy, cooperation, and competition are all important skills—and are important for all our students. ■

Note

1. Under Title IX, portions of elementary and secondary school classes dealing with human sexuality and instruction in sports that involve bodily contact may, but do not have to be, separated by sex. (Title IX Rules and Regulations of the Educational Amendments of 1972, section 86.34)

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COMMUNICATION
THEORIES AND APPLICATIONS

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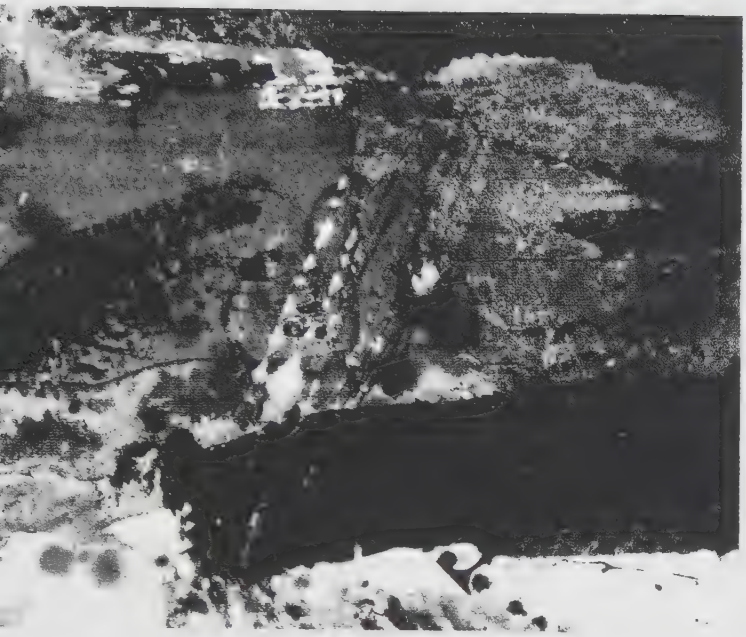
Chapter 5

Challenges to Communication



Scenario 1: The discussion during a group meeting has grown very heated. Everyone is tired, and the group does not seem to be getting anywhere. You suggest that the group adjourn and start fresh the next day. Another group member immediately chastises you, saying, "You're an idiot!! You've made no contributions the whole time, and now you try to boss us around. What a jerk you are." You shout back that the other person is an idiot and that you have been listening very closely to what is going on. You continue that your being quiet doesn't mean you can't suggest that the group adjourn. You turn to the other group members to see their reactions.

Scenario 2: Your boss asks you to help a new employee, Chris, learn some of the procedures that need to be followed on the job. You explain to Chris in great detail how things work. While you talk, Chris nods understandingly but says little. You ask Chris if she understands what you've said. She says, "Yeah, I, um, think so." A week later your boss complains to you that you did a poor job of training Chris. Chris has not followed any of the procedures correctly. You are exasperated.

Scenario 3: You and a friend decide to go out Saturday night. You are ready to go at eight, but your friend has not shown up. Around half past nine, your friend calls and says he's at a party and can't get away; he'll see you Monday. On Monday, you tell your friend that you no longer want to be friends. He asks why. You start telling him how selfish and immature he is, but he interrupts and claims that you are being unreasonable. For an hour you go back and forth, arguing about what happened and about the future of the relationship. Eventually, your friend apologizes and vows to be more diligent in following through on commitments. You accept the apology and express your willingness to continue the friendship.

Chapter 1 offered seven reasons why we communicate. The first reason was to satisfy needs. Each of the three scenarios represents a different kind of challenge that we encounter in our effort to satisfy three particular types of needs: identity, instrumental, and relational.[1]

Satisfying **identity needs** involves using communication to present who you are to other people, to have that presented self accepted and confirmed by other people, and to confirm other people's identities. Rejection of a presented self thwarts your effort to satisfy your identity needs. In the first scenario, your identity needs are challenged by the group member who criticizes you and calls you names. Your "face" (discussed in Chapter 2 and later in this chapter) is being threatened by what the other group member has declared about you. People often respond to attacks with counterattacks and attempts to defend or justify their behaviors. Sometimes people even lie. You can address the challenge of dealing with aggressive behavior, attacks to your face, and lying by improving your communication skills.

The second scenario reflects communication that is used to meet **instrumental needs**—that is, to accomplish a task or perform a job. However, the new employee does not understand your instructions, and so the task is not performed correctly. Even though you ask if she understands you, Chris probably does not want her face threatened by having to admit that she doesn't understand. She wouldn't want to threaten your face either by telling you that your explanation isn't clear. In general, we are able to satisfy our instrumental needs through

understanding and through effective use of persuasive strategies. However, satisfying instrumental needs can be hampered by problems in perception, listening, expressing ideas, and strategic decisions.

The third scenario focuses on satisfying your need for healthy relationships. Communication is used to satisfy **relational needs** through the management of relationships from initiation to termination. In this scenario, communication is used to maintain the relationship by effectively managing a conflict. This involves satisfying both your identity and your relational needs. Ineffective use of communication, on the other hand, can intensify conflicts.

These scenarios reflect the types of challenges we must deal with in our interactions with other people. Knowing how to communicate effectively can help us resolve many problems and satisfy our needs. However, communication can also be a problem in and of itself or can worsen a problem. One popular myth is that we could solve all our problems with other people if we would just sit down and talk. Indeed, there are some problems that can be helped by constructive communication. However, there are also times when communication is the wrong action to take.

For instance, if you are having a major fight with a friend, it might be best to retreat awhile, cool down, and distance yourselves from the situation. If you continue to talk, you both might regret things spoken in a fit of anger. Communication has to be used strategically to be effective. Knowing *when* to say something is just as important as knowing *how* to say it.

This chapter will examine a variety of factors that inhibit our ability to satisfy our needs. To use communication effectively to satisfy our needs, we must overcome the challenges created by threats to our face, by misunderstandings and misrepresentations, and by conflict. By the end of this chapter, you will have gained a variety of suggestions on how to recognize and adapt to such communication challenges.

The Challenge of Maintaining Face

Each time you communicate with other people, you present a conception of yourself (face), and you seek confirmation and acceptance of that presented self.[2] As you stand in front of an audience to give a presentation, for example, you have a particular image you are trying to convey. You want the audience to confirm and accept that image. You probably want to be seen as intelligent, articulate, informed, and likable. What happens, though, when you get lost in the middle of your presentation? You start muttering and apologizing as you search for your next point. You feel embarrassed by your behavior.

In situations like this, you have threatened your own face; that is, you have displayed behaviors that contradict the image you were trying to present. Apologies are a way of helping us **save face,** that is, restore the image that we were originally trying to convey. In our example, you find your place in the speech again and continue on, trying to do better and forget what happened. When you finish your presentation, the audience applauds, and your friends tell you that you did a great job and that they found the presentation very informative.

The audience's positive reaction to the speaker helps the person maintain a positive face.

Why do your listeners make a point of complimenting you and ignoring your stumbles? Because, generally, other people will try to help us **maintain face** by providing support, confirmation, and acceptance of the self-conception we are presenting. Some of the ways people can help us maintain face involve expressions of understanding, friendly advice, pardons, compassion, offers of help, and laughing with us.[3] By not raising the issue of your getting lost in the middle of your presentation, your listeners are helping you maintain your image as an articulate and intelligent speaker. Obviously, this example depends on your having a self-concept that includes being articulate and intelligent. If that is not how you think of yourself, getting lost in the speech might not be a threat to your face.

There are times when rather than helping us maintain our face, people threaten and challenge it. Face-threatening acts include name-calling, arguing, disapproval, criticism, ridicule, teasing, insults, accusations, disagreements, contradictions, reprimands, complaints, blatant noncooperation, threats, orders, and ignoring. However, when people make face-threatening statements, they put their own face on the line as well. For example, suppose I accuse you of not turning in an assignment, but in fact you did turn it in and I simply misplaced it. My accusation threatens your face, and you are likely to try to save face by a strong declaration that you turned in the assignment. By accusing you, I have put my face on the line—my self-concept of being a diligent and fair instructor. After finding your paper, I have to come back to you and admit my error, which causes me to lose

some face. I will probably present some excuse for my error in an attempt to minimize my loss of face.

One way we protect ourselves from face threats is to use the powerless language discussed in Chapter 4. We can "waffle" a bit in presenting our face, so it becomes more difficult to threaten. Statements like "I might be wrong, but . . ." or "I think, maybe, we could do it this way" are a way of presenting an idea without commitment or ownership. If someone says, "No, we shouldn't do it that way," we can save face by saying, "Yeah, I didn't think that was the best way either."

We can also indicate that we are aware of a social code and ask for indulgence while we violate it.[4] My family has a rule about not burping loudly at the table. One of my sons is particularly adept at shaking the walls with his belches. He knows the rule and abides by it; however, he occasionally asks permission to violate the rule and let it rip, which is sometimes granted. He knows that if he did not ask permission and just belched loudly, he would be acting impolitely and disrespectfully, which is not the face he wishes to present.

Cultures differ in terms of the importance of face. Think about your own cultural background. How important is it in your culture to save face and to help others do so? What factors in your upbringing have influenced the way you think about face?

Compare your thoughts with those of your classmates. To what degree do you find differences by race, sex, age, or hometown?

■ *Failure Events*

Human communication and interactions are filled with expectations about behaviors. Failing to fulfill an obligation or expectation produces a **failure event**.[5] Failure events relate to communication in two ways: First, failure events occur in your communication behavior; and second, communication can be used as a tool for managing failure events.

Imagine that your boss expects you to deliver a well-prepared presentation to a group of managers. When you are ill prepared, it is a failure event. Your friends expect that when you say you will help decorate for a party, you will be there. Not showing up is a failure event. So what will you do in these two failure events? Part of your reaction depends on the other people. You may choose not to say or do anything if your boss or friends don't mention your failure. On the other hand, if you know that the other people are really upset, you may choose not to wait for them to say something—you may raise the issue yourself and apologize.

Failure events involve threats to people's face, and the management of failure events is an exercise in "face work." Giving an ill-prepared presentation could reflect an image of someone who is unprofessional and incompetent, and thus it would threaten your face (unless that's how you want to be perceived). Your boss's face is also threatened by your action. Your boss's abilities to make decisions, judge personnel, and manage effectively are undermined by your performance.

It is challenging to resolve such situations while preserving both parties' face. Sometimes one person's face is maintained through the loss of the other person's face.[6] Apologizing to your boss helps your boss maintain face but causes some loss

Maintaining Face: Sex Differences in Communication Styles

A popular author of gender and communication texts, Deborah Tannen explains some of the differences in the way men and women respond to face-threatening situations such as apologizing, fighting, and criticism. As you read this article, see if the descriptions match the way you react to these face-threatening situations.

Unfortunately, women and men often have different ideas about what's appropriate, different ways of speaking. Many of the conversational rituals common among women are designed to take the other person's feelings into account, while many of the conversational rituals common among men are designed to maintain the one-up position, or at least avoid appearing one-down. As a result, when men and women interact—especially at work—it's often women who are at the disadvantage. Because women are not trying to avoid the one-down position, that is unfortunately where they may end up. Here are the biggest areas of miscommunication:

Apologies

Women are often told they apologize too much. The reason they're told to stop doing it is that, to many men, apologizing seems synonymous with putting oneself down. But there are many times when "I'm sorry" isn't self-deprecating, or even an apology; it's an automatic way of keeping both speakers on an equal footing. For example, a well-known columnist once interviewed me and gave me her phone number in case I needed to call her back. I misplaced the number and had to go through the newspaper's main switchboard. When our conversation was winding down and we'd both made ending-type remarks, I added, "Oh, I almost forgot—I lost your direct number, can I get it again?" "Oh, I'm sorry," she came back instantly, even though she had done nothing wrong and I was the one who'd lost the number. But I understood she wasn't really apologizing; she was just automatically reassuring me she had no intention of denying me her number.

Even when "I'm sorry" is an apology, women often assume it will be the first step in a two-step ritual: I say "I'm sorry" and take half the blame, then you take the other half. At work, it might go something like this:

A: When you typed this letter, you missed this phrase I inserted.
B: Oh, I'm sorry. I'll fix it.
A: Well, I wrote it so small it was easy to miss.

When both parties share blame, it's a mutual face-saving device. But if one person, usually the woman, utters frequent apologies and the other doesn't, she ends up looking as if she's taking the blame for mishaps that aren't her fault. When she's only partially to blame, she looks entirely in the wrong. . . .

Unfortunately, not apologizing can have its price too. Since so many women use ritual apologies, those who don't may be seen as hard-edged. What's important is to be aware of how often you say you're sorry (and why), and to monitor your speech based on the reaction you get.

Criticism

A woman who co-wrote a report with a male colleague was hurt when she read a rough draft to him and he leapt into a critical response—"Oh, that's too dry! You have to make it snappier!" She herself would have been more likely to say, "That's a really good start. Of course, you'll want to make it a little snappier when you revise."

Whether criticism is given straight or softened is often a matter of convention. In general, women use more softeners. I noticed this difference when talking to an editor about an essay I'd written. While going over changes she wanted to make, she said, "There's one more thing. I know you may not agree with me. The reason I noticed the problem is that your other points are so lucid and elegant." She went on hedging for several more sentences until I put her out of her misery: "Do you want to cut that part?" I asked—and of course she did. But I appreciated her tentativeness. In contrast, another editor (a man) I once called summarily rejected my idea for an article by barking, "Call me when you have something new to say."

Those who are used to ways of talking that soften the impact of criticism may find it hard to deal with the right-between-the-eyes style. It has its own logic, however, and neither style is intrinsically better. People who prefer criticism given straight are operating on an assumption that feelings aren't involved: "Here's the dope. I know you're good; you can take it." . . .

Fighting

Many men expect the discussion of ideas to be a ritual fight—explored through verbal opposition. They state their ideas in the strongest possible terms, thinking that if there are weaknesses someone will point them out, and by trying to argue against those objections, they will see how well their ideas hold up.

Those who expect their own ideas to be challenged will respond to another's ideas by trying to poke holes and find weak links—as a way of helping. The logic is that when you are challenged you will rise to the occasion: Adrenaline makes your mind sharper; you get ideas and insights you would not have thought of without the spur of battle.

But many women take this approach as a personal attack. Worse, they find it impossible to do their best work in such a contentious environment. If you're not used to ritual fighting, you begin to hear criticism of your ideas as soon as they are formed. Rather than making you think more clearly, it makes you doubt what you know. When you state your ideas, you hedge in order to fend off potential attacks. Ironically, this is more likely to invite attack because it makes you look weak.

Although you may never enjoy verbal sparring, some women find it helpful to learn how to do it. An engineer who was the only woman among four men in a small company found that as soon as she learned to argue she was accepted and taken seriously. . . .

THERE IS NO "RIGHT" WAY TO TALK. When problems arise, the culprit may be style differences—and all styles will at times fail with others who don't share or under-

stand them, just as English won't do you much good if you try to speak to someone who knows only French. If you want to get your message across, it's not a question of being "right"; it's a question of using language that's shared—or at least understood.

Source: Deborah Tannen, Excerpted from Deborah Tannen, *Talking from 9 to 5: How Women's and Men's Conversational Styles Affect Who Gets Heard, Who Gets Credit, and What Gets Done at Work* (New York: William Morrow, 1994). Text: Copyright ©1994 by Deborah Tannen. By permission of William Morrow and Company, Inc.

of face for you. Potentially, neither of you would suffer a loss of face if your reason for being ill prepared was out of your control, such as a computer crash that destroyed all your material right before your presentation.

Reproaches. A failure event may be followed by a reproach. A **reproach** is an indication by someone (usually the person toward whom the failure event is directed) that a failure event has occurred. The reproach can be either implicit or directly stated.

Reproaches fall along a continuum from mitigating to aggravating.[7] A **mitigating reproach** reflects only mild irritation with the failure event (for instance, stating rather matter-of-factly, "I thought you were going to be here ten minutes ago"). An **aggravating reproach** is a severe, intense declaration of the occurrence of a failure event (such as loudly stating, "Once again, you've kept me waiting! Do you think I don't have anything better to do? You are so irresponsible!").

Accounts. Usually, a reproach is followed by an account. An **account** is a stated response to a reproach by the person accused of the failure event. Early researchers identified five types of accounts: apology, excuse (the most common), justification, denial, and silence.[8]

- An **apology** is a statement in which the person admits the failure event, accepts responsibility for it, and expresses regret.
- An **excuse** reflects an admission that the failure event occurred but contends that nothing could have been done to prevent it (because, for example, it occurred through unfortunate circumstances).
- **Justification** involves accepting responsibility for the failure event but then trying to redefine the event as not being a failure.
- **Denial** involves stating that a failure event never took place.
- **Providing no account,** or **silence,** occurs when an individual either offers no response or ignores the reproach by changing the subject.

Examples of these five types of accounts are given in Table 5.1. Which of the accounts do you think would create the most negative reaction from a reproacher? Which would evoke the most positive reaction?

Like reproaches, accounts can be placed on a continuum of mitigating to aggravating. Table 5.1 lists them in this order, with apology being the most mitigating and silence, or no account, the most aggravating. There is also a connection between how aggravating an account is and how threatening it is to each

Table 5.1 Examples of the Five Types of Accounts

	Reproach: "Your presentation today really needs some work. You didn't seem very prepared."
Apology	"You're right. I'm sorry. I've already got some ideas for improving it."
Excuse	"Yeah, I know. My computer crashed while I was putting together my notes. I lost a lot of what I was planning to use."
Justification	"Well, I had a choice: finish the research report that the president wanted, or prepare for this presentation. You know how the president feels about late reports."
Denial	"Hey, everybody else seemed to like it. I think it went really well."
No account	"So next week we're going to be working on that new computer project, right?"

participant's face. For example, an apology causes the greatest loss of face for the accounter while preserving the most face for the reproacher. Silence, on the other hand, protects the accounter's face the most, but represents the greatest threat to the reproacher's face.[9] In general, mitigating reproaches are likely to evoke mitigating accounts, while aggravating reproaches are likely to evoke aggravating accounts.[10]

The give-and-take of failure events. After an account is given, it is up to the reproacher to decide whether the account is acceptable and whether to dismiss the failure event. When the account is rejected, we often try to provide another account. We might initially give an excuse for our failure event, but if the reproacher doesn't buy the excuse, we might decide to apologize. A give-and-take occurs that sometimes develops into a conflict.

Each party must decide how far to push his or her point of view. A number of factors influence this process, such as the perceived severity of the failure event, the importance of other issues (such as the relationship), and the consequences for future behavior.

Think about a recent significant event in which you failed to meet someone else's expectations and were reproached. How did the other person reproach you? How did this reproach affect you, and what account did you give?

How else might the other person have reproached you, and in that case, how would you have reacted?

Embarrassment. Sometimes we fail to meet our own expectations for our behaviors (we threaten our own face) and thus feel embarrassed.[11] For example, walking into class and spilling a can of soft drink all over the place means you have threatened your own face by appearing clumsy and uncoordinated. Research on how we manage embarrassing situations indicates that we use the account strategies already discussed, plus four additional strategies: humor, remediation, escape, and aggression:[12]

- *Humor* involves laughing off the issue or making light of it. After spilling your soft drink, you might say something like "I didn't really need the caffeine anyway."
- Through *remediation*, people make restitution, repair the damage, or simply re-collect themselves. Using this strategy, you might quickly get some paper towels and wipe up the spilled soda, particularly if no one else is around to know that you have made the mess.
- *Escape* allows people to distance themselves from the situation. If you were the only person in the room when you spilled the soft drink, you could use escape as a strategy by leaving the room and coming back later. Upon your return, you would act as if you didn't have anything to do with the spill.
- Finally, *aggression* involves a verbal or physical attack on the other people involved. You might lash out at the other students who watched you spill your drink: "What's the matter? Haven't you seen anybody spill something before?" A particularly aggressive response might be to knock over other students' drinks as a way of disguising the initial embarrassment.

Managing failure events and embarrassment. Your communication interactions are filled with failure events and embarrassing situations. Understanding the likely patterns in these events can help you use communication to manage them better.

You can handle failure events better if you appreciate, for example, how your reproaches affect other people. If you threaten a person's face too aggressively, you are unlikely to gain admission of guilt, apology, or restitution. Thus, you need to consider what your goal is in reproaching the other person. Reproaches can be used to correct behavior that you find inappropriate, unsatisfactory, or damaging. But reproaches that are presented simply to belittle the other person are unproductive and can ultimately backfire.

Likewise, in providing an account to another person, you should examine your culpability. You should also consider the reproacher's objectives and desires so that you can understand his or her reason for the reproach. Sometimes it is best simply to admit your failure and make a genuine effort to correct it.

In many situations, unfortunately, attempts to save face lead to lying or deceit. You might create false excuses or justifications to gain acceptance of your account and get yourself off the hook. In the next section, we'll look at different types of deception and some of the reasons people resort to them.

■ Deception

One of the unique characteristics of human communication is that we can manipulate symbols and create messages that are false, misleading, and deceptive. We cannot believe everything we hear, and consequently we must evaluate messages for their veracity. Guarding against deception in communication is a regretful necessity.

Deception can be thought of as the intentional disguising, avoiding, hiding, or falsifying of the truth. There are a number of types of deceptive communication, including equivocation, concealment (secrets), half-truths, diversions, and lies.

Equivocation. Given the ambiguity of language, messages are often equivocal—that is, suggestive of more than one interpretation. The term equivocation, however, adds the sense of intention, or purpose, as mentioned in Chapter 4. **Equivocation** involves purposely sending vague, unclear, or ambiguous messages.

Politicians are often stereotyped as exemplars of equivocation. The rest of us, too, use equivocation as a way of avoiding the truth, often because we are afraid of hurting another person's feelings. For example, a friend going out on a date asks you, "What do you think of my new outfit?" You think to yourself that the outfit is unflattering, but you don't want to threaten your friend's face. On the other hand, you don't want to threaten your own face by lying (after all, you have an honest relationship). So what do you say? You probably equivocate, saying something like "It's interesting." You are being deceptive because you are not disclosing your true reaction; however, you are not telling an outright lie if you think the outfit is indeed interesting.

Sometimes other people realize that we are sending ambiguous messages. In that case, they have two options. They can move on to another topic, realizing that we are trying to help them save face. Or they can ask us to give them more specific feedback. In the situation of your friend's new outfit, your friend may use a "disclaimer" that in essence gives you permission to threaten her face: "No, really, tell me what you think, I know this might not be my best look." At this point, you may be more "honest" but still try to limit the threat to your friend's face by saying something like "I think your blue jeans and navy blue sweater are a better look."

Concealment. In our example of equivocation, your response was meant to hide your true reaction to your friend's new outfit. A similar technique is **concealment**, which involves holding back information so that the other person reaches erroneous conclusions.

Suppose you are in an employment interview. As the interviewer examines your transcript, she comments, "Wow, you got an A in statistics, that's really good, we need people with good math and statistics skills." You remain silent, concealing the fact that the course involved hardly any math and that everyone in the class got an A because the instructor was an easy grader. This is deception by concealment.

Half-truths. Half-truths are similar to concealment in that some information is withheld. **Half-truths** involve leaving out information or modifying or qualifying the message to lessen the impact or reaction. Suppose your computer crashes for an hour one night while you are working on a class assignment. After you get it running again, you decide to go out with some friends. The next day you tell your professor, "My computer crashed last night in the middle of working on today's assignment, so I don't have it done. Can I turn it in tomorrow?" Your statement is only half true; it is deceptive because you are intentionally trying to create the impression that the computer failure prevented you from finishing the assignment.

Some half-truths are created by qualifying. For example, a boss might mislead her employees about a cutback in funds that she knows is going to happen by

saying, "I know some of you are upset about these proposed cutbacks, but you know, sometimes the company ends up not making the cuts, so don't panic."

Diversions. Sometimes deception involves simply dodging the matter. **Diversions** are attempts to change the focus of the communication to another topic to avoid discussing the issue at hand. After outlining a quality-control plan that requires employees to meet in groups to develop their ideas, a manager fields the following question: "Will we be meeting on company time or on our own time to discuss our ideas for improvements?" The manager uses diversion to respond: "That's a good question. There will be lots of opportunities to improve the production facilities, for example. . . ." The manager at first seemed willing to address the question, but actually diverted the answer to a side issue. The manager was hoping to deceive the listeners into believing that the question was answered.

Unless we are effective listeners, we might not even realize that someone hasn't responded to our query. And even if we do realize, we are usually hesitant to requestion the speaker after a diversion because that would challenge the speaker's face and potentially our own. How would you tactfully get someone who is using diversions back on track? Which of the following two follow-ups to the manager's response would be more effective?

A. "You didn't answer my question. Are we doing this on our own time or not?"
B. "I'm not sure I understood you. Are you saying we will be doing this on our own time?"

Statements that are qualified and that put the responsibility for misunderstanding on you rather than on the other person are less threatening to the other person. Therefore, option B would be the better choice.

Lies. Lies are probably viewed more negatively than any other form of deception because there is little doubt about the speaker's intention. **Lies** are the deliberate presentation of false information. Lies are probably the most common form of deception.[13] Lies take on many forms, and they are sometimes categorized by their degree of falseness or harm.

The term **white lie,** for instance, is used to describe a lie that is viewed as fairly close to the truth and fairly insignificant in its impact. Sometimes we lie as part of teasing, kidding, joking, bluffing, or playing a hoax. We kid others with statements like "You know those new CDs you lent me? Did you know they melt?" After watching for a horrified reaction, the "teaser" usually breaks out laughing and admits, "I was just kidding."

We also lie through exaggeration or embellishment, overstating the case or adding information that is inaccurate. The famous line in fishing, "You should have seen the one that got away—it was this big" (at which point the speaker's arms spread wide apart), is a good example of exaggeration. Exaggeration is generally used to emphasize a particular point, ensure the listener's attention, add credibility to a story, impress the listener, or heighten the effect. A narrow escape from a wild bear sounds much more exciting if the teller says the bear was only two feet away rather than admitting that it was thirty feet away.

Exaggerations are not to be taken lightly when the intention is to deceive and gain advantage over the listener. Commercials are monitored for false claims in

which the value of a product is exaggerated. Almost every week an investigative report on *60 Minutes* or *20/20* details exaggerated claims for get-rich schemes or products such as miracle-cure mineral waters.

Think about an instance of deception you have engaged in recently. What type did you use? Why did you do it? What were the effects for you? What were the effects for the other person? Did you get caught?

Reasons for deception. Research shows that deception is fairly pervasive in our communication.[14] Most of the time we use it for selfish reasons, such as the following:

- We sometimes use deception to gain or protect resources. Those resources can be material things, such as money or possessions. But resources can also include relationships and self-esteem.
- We might use deception to improve our ability to persuade or gain compliance from other people. One research study found distinct differences in the way truthful and deceptive persuaders tried to get something from someone.[15] Deceptive persuaders offered more explanations and rationales for granting the request than did the truthful persuaders. On the other hand, truthful persuaders were more likely to use reward or punishment as a means of persuasion.
- We use deception to protect ourselves. For instance, after a failure event, we might lie to save face. We might falsify information in our excuse or justification to reduce the damage to our face. We also try to protect ourselves by avoiding conflicts through deception. The manager who used diversion when responding to an employee's question was probably motivated by a desire to avoid conflict.
- We might use deception for our amusement. Deceptive teasing or kidding allows us to gain some pleasure from watching other people's reactions. The TV shows *Candid Camera* and *Bloopers* often involve filming people's reactions to a deceptive situation for the entertainment of the audience.

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- Finally, we use deception to protect others (although there is often a degree of self-serving in such acts as well). For example, we might not reveal information to friends that we expect would upset or depress them.

Under what circumstances do you feel deception is acceptable? Within which of the following categories of communication do you feel deception is least unethical? Most unethical? Explain.

interpersonal communication	presentational communication
interviewing	organizational communication
small group communication	mass communication

Detecting deception. Research on detecting deception has produced contradictory results.[16] Some research suggests that as relationships become more intimate, we develop a truth bias; that is, we are more apt to believe what we are told by those closest to us. One study found that being a participant in an interaction decreases our ability to detect deception as compared to those who simply observe the interaction.[17] In contrast, other researchers in a noninteractive study found that lovers could tell when their partners were lying 65 to 70 percent of the time.[18]

In some research studies, ironically, "experts" (such as military intelligence officers) were less accurate in determining truth than were novices.[19] Nonetheless, other research has found that deception detection training is sometimes effective. One study, evaluating a training program that had participants focus on six behavioral causes of deception, found that the training did increase the participants' accuracy in judging other people's statements.[20]

We do tend to give some clues when we are telling lies. **Leakages** are subtle behavioral changes that accompany deception. The degree to which these leakages occur depends on the level of anxiety felt by the deceiver: the less anxiety, the less leakage. This is one reason that lie detection machines are not infallible.

Leakages involve various types of behavior. Compared to nondeceivers, deceivers generally exhibit more adaptors (such as scratching, rubbing, picking, handling a pencil), hand gestures, and speech errors. Deceivers also pause more often, take a longer time to respond to questions, and provide shorter responses.[21]

What happens when we suspect that someone isn't being honest with us? If it's an interpersonal encounter, we might decide to probe for more information to determine the person's veracity. Our probing behavior, though, can potentially alert the deceiver to our suspicions, thus causing the deceiver to alter his or her behavior to cover up.[22]

A significant problem in communicating with strangers on the Internet is the presentation of false information and the attempt to detect it. Log on to a chat session for a while and see what cues you can identify that might lead you to believe a deception is occurring. What can you do to determine if other people on the Net are being honest with you? How important is honesty over the Internet?

Aggressive Versus Assertive Messages

We have discussed teasing as both a face-threatening act and a form of deception. Teasing can also have another impact, that of making the recipient feel put down and belittled. When this is the speaker's intent, teasing becomes an aggressive message.

Aggressive messages are verbal attacks on the self-concepts (face) of individuals for the purpose of making them feel less favorable about themselves.[23] Four reasons have been identified for the use of verbal aggressiveness: frustration (a response to having goals blocked), social learning (the way someone has learned to deal with situations), psychopathology (lashing out at other people who symbolize unresolved personal issues), and argumentative skill deficiency (lack of verbal skills to constructively deal with issues)[24]. Most of us have been outargued or otherwise frustrated in our interaction with someone, and we may have responded by verbally attacking the other person through name-calling, putdowns, insults, and so on. Such attacks to another person's face often result in a corresponding attack on our own face and/or escalation of the interaction into a conflict.

How aggressive are you? Complete the following Test Yourself to see what the aggressiveness scale indicates about you. How does your score compare with the way you generally regard your level of aggressiveness?

This verbal aggressiveness scale is concerned with how we try to get people to comply with our wishes. Indicate how often each statement is true for you personally when you try to influence other people. Use the following scale: (1) almost never true, (2) rarely true, (3) occasionally true, (4) often true, (5) almost always true.

_____ 1. I am extremely careful to avoid attacking individuals' intelligence when I attack their ideas.
_____ 2. When individuals are very stubborn, I use insults to soften the stubbornness.
_____ 3. I try very hard to avoid having other people feel bad about themselves when I try to influence them.
_____ 4. When people refuse to do a task I know is important, without good reason, I tell them they are unreasonable.
_____ 5. When others do things I regard as stupid, I try to be extremely gentle with them.
_____ 6. If individuals I am trying to influence really deserve it, I attack their characters.
_____ 7. When people behave in ways that are in very poor taste, I insult them in order to shock them into proper behavior.
_____ 8. I try to make people feel good about themselves even when their ideas are stupid.
_____ 9. When people simply will not budge on a matter of importance I lose my temper and say rather strong things to them.
_____ 10. When people criticize my shortcomings, I take it in good humor and do not try to get back at them.

_____11. When individuals insult me, I get a lot of pleasure out of really telling them off.

_____12. When I dislike individuals greatly, I try not to show it in what I say or how I say it.

_____13. I like poking fun at people who do things which are very stupid in order to stimulate their intelligence.

_____14. When I attack peoples' ideas, I try not to damage their self-concepts.

_____15. When I try to influence people, I make a great effort not to offend them.

_____16. When people do things which are mean or cruel, I attack their character in order to help correct their behavior.

_____17. I refuse to participate in arguments when they involve personal attacks.

_____18. When nothing seems to work in trying to influence others, I yell and scream in order to get some movement from them.

_____19. When I am not able to refute others' positions, I try to make them feel defensive in order to weaken their positions.

_____20. When an argument shifts to personal attacks, I try very hard to change the subject.

Scoring instructions: Sum the scores of the 20 items after reversing the scoring for items 1, 3, 5, 8, 10, 12, 14, 15, 17, and 20 (change 1 to 5, 2 to 4, 4 to 2, and 5 to 1).

One study found the average score to be 49.10. How does your score compare to this number? A score greater than 59 probably indicates strong verbal aggressiveness. A score less than 39 probably reflects verbal nonaggressiveness.

Source: From D. A. Infante and C. J. Wigley, III, "Verbal Aggressiveness: An Interpersonal Model and Measure," *Communication Monographs,* 53 (1986): 61–69. Reprinted with permission.

We sometimes use aggressive messages in the mistaken belief that we are simply asserting our own rights. However, we can assert our rights without attacking others. **Assertive messages** are messages in which we argue for our own rights while recognizing the rights of others. Assertive messages involve a forthright yet socially appropriate expression of our rights and feelings.

Being assertive is a complex task that requires the ability to express one's self verbally and nonverbally in such a way as to minimize hostility or defensiveness on the part of other people. Let's go back to the employee who asked the manager about the quality-control plan. Underlying the interaction is the question of whether the employee is going to have to forfeit his or her own time. An assertive response would be: "I would not be happy if I had to do this on my own time. I believe that my time is *my* time, not the company's. However, I'd be happy to participate while I'm on the clock." This statement includes an honest expression of feelings, a claim of personal rights, and a recognition of the manager's rights.

You might choose not to be assertive because you are concerned about how you will be seen. You wouldn't want to voice an assertive message that conveyed an image contrary to your positive face. Also, you might be concerned about the threat to another person's face caused by your assertive message. The key is to make statements that are both consistent with your face and minimally damaging to the other person.

How would you handle the following situation? You are in a busy restaurant and your order is messed up. You get a spinach salad when you ordered a tossed salad. Do you go ahead and eat the salad, or do you call the waiter over to correct your order? If you don't ask to have the order corrected, why not? If you do ask, are you aggressive (hostile) or assertive (recognizing that the waiter is busy)? Telling the waiter that the order is incorrect challenges the waiter's face. He wants to be seen as a good waiter and get a good tip. How can you help him maintain his image as a good waiter while getting what you want?

The Challenge of Misunderstandings and Misrepresentations

Chapter 4, in discussing the notion of shared meaning, pointed out that two people never really have a 100 percent overlap in the meaning they assign to messages. But the fact that you and I don't share exactly the same meanings doesn't mean that we can't communicate effectively. Human communication is flexible enough to tolerate most deviations from shared meaning without causing significant breakdowns in our interactions. Misunderstandings occur only when the differences reach a critical threshold.

Misunderstandings are instances in which a hearer's inability to comprehend the message results in confusion, failure events, conflict, or incorrect responses. Misunderstandings are problems in the way the hearer decodes messages or interprets perceptions. In addition to difficulties with the language in the message, misunderstanding can occur at several other levels:

- *Misunderstanding intentions.* You might understand the words people have spoken but misunderstand their intentions. For example, Lincoln asks Myron to leave. Myron doesn't leave, and Lincoln becomes irritated and says, "Why aren't you leaving like I asked you?" Myron responds, "I thought you were kidding. I didn't really think you meant it." Myron understood Lincoln's words but misunderstood his intentions.
- *Misunderstanding the relationship.* You may believe that a certain relationship exists between you and the person speaking to you, but that person may have a contrary perception. In this case, you have a misunderstanding of the relationship.
- *Misunderstanding the situation.* Showing up in shorts and a T-shirt for a Sunday afternoon brunch at which everyone else is in skirts and suits reflects a misunderstanding of the situation. Usually, this kind of misunderstanding results in socially inappropriate behavior.
- *Misunderstanding the culture.* Misunderstanding the cultural factors that underlie another person's behavior can lead to incorrect attribution of meaning, as you saw in Chapter 4.

Speakers themselves also contribute to incomprehension. **Misrepresentations** are instances in which a speaker produces an incomprehensible message. Like misunderstandings, misrepresentations lead to confusion, failure events, conflict, and incorrect responses. Suppose you have been invited back to your elementary school to give a presentation to the sixth graders about college life.

During part of your presentation, you say, "Higher education exposes you to a heterogeneous group of pedagogical purveyors who enjoin you to ratiocinate in neoteric ways." Do you think the sixth graders will understand what you have said? You have chosen language beyond their level of understanding and created incomprehension. A more effective statement would have been, "In college you have a lot of different teachers who make you think in new ways."

Some of the other ways speakers create misunderstandings are through the use of confusing nonverbal communication, insensitive or threatening statements, and lack of clear explanation. Sometimes the message might be clear but the speaker has caused the listener to quit listening. There are ways in which both listeners and speakers can reduce the amount of misunderstanding and misrepresentation. Underlying such efforts must be a desire by the listener to achieve understanding and a desire by the speaker to have the message accurately received. The following sections offer suggestions for making yourself both a better listener and a better speaker.

Suppose you are interacting with someone from another country who is not particularly fluent in your language. What can you do to minimize misunderstanding? What can you do to minimize misrepresentation?

■ *Improving Understanding: Things a Listener Can Do*

Thus far, you have read about a number of factors that interfere with your ability to accurately receive, decode, and interpret what you perceive. The problems include perceptual distortion, the ambiguity of words and nonverbal cues, and confusion about intentions. In this section, you'll find a number of suggestions for reducing misunderstandings. Ultimately, of course, the success of any of these suggestions rests on your desire and commitment to work actively toward better understanding.

Improve perception. Understanding requires gathering complete and accurate information. If your field of perception is too narrow, you will miss information. Challenge yourself to look beyond the obvious.

Perhaps you are listening to a speaker who talks in a quiet monotone. As a result, you conclude that the speaker must not have anything important to say and you tune out. Such behavior could cause you to miss important information. Instead, try applying the suggestions in Chapter 3 for improving your perception. Rather than tuning out, seek additional information. Make more observations before reaching conclusions. You will need to monitor and correct for perceptual biases. Are you attending only to the first and last information you receive? Are you drawing conclusions too quickly? Are you weighting negative information too heavily? What preconceptions did you bring to the situation? Are you focusing too much on irrelevant points (the speaker's monotone, fidgeting, poor eye contact, and so on)?

Improve listening. Part of misunderstanding stems from a failure to hear the complete message. The intermittent nature of listening, discussed in Chapter 3,

almost ensures that you will miss part of the message. The question is whether you miss critical elements during your "vacation" time. You need to minimize the amount of time that your focus wanders away from the message.

You can consciously remind yourself to return your focus to the speaker and to ignore both external and internal distractions. You can also use your vacation time to focus on other aspects of what is being said that will aid you in understanding. You can organize what you are hearing so that it is easier to retain and recall. You can compare what is being said with how it is being said, seeking to capture deeper meanings.

Finally, you can apply the active listening skills discussed in Chapter 3, putting yourself in the role of cocreating understanding. Ask yourself what you understand. Tell the other person what you understand. Tell the speaker what you think has been said in your own words (paraphrasing). Don't just parrot back the words, but rephrase them. In that way, you add your interpretation to what was said and allow the other person to correct you if necessary.

Improve self-understanding. Understanding your own self helps to ensure understanding others. That is, a clear understanding of your psychological context helps you identify the factors that might distort what you hear—for example, your culture, your emotional state, your needs.

It is important to be conscious of your biases and how they affect your interpretations. You should examine and compensate for any communication preconceptions you might have. You need to identify your tendencies to impose expectations on what is actually heard and observed. Finally, you can try to desensitize yourself to words that might create overemotional reactions, interfering with your comprehension of the message.

Improve social decentering (perspective taking). Social decentering was presented in Chapter 4 as a way to help you understand other people's attributions of meaning. Social decentering involves knowing people's psychological contexts—their backgrounds, needs, cultures, and so forth. This enhances your ability to understand their meanings and behaviors.

You also need information about the situation. Understanding where people are "coming from" and the influence of the situation lets you put yourself in their shoes. You can comprehend their messages because you understand their feelings, thoughts, and behaviors. In one episode of the TV show *Star Trek: Deep Space Nine*, an electronic alien entity invaded the space station's computer system and began shutting down life-support systems. The entity had been alone on a spacecraft for decades. The alien's behavior was seen as hostile, and the more the protagonists tried to defeat it, the more aggressive it became. The solution to saving the station came when the engineering chief realized that the creature was like a puppy dog, longing for attention and caring. Imagining how attention craved the alien "puppy" must have been, cooped up on the spacecraft, the engineering chief created an electronic "doghouse" where the alien could be played with and cared for. An initial misunderstanding of behavior was corrected by the use of imagination-based social decentering. You can do the same thing when interacting with people.

Admit and correct misunderstandings. You must judge the significance of a misunderstanding and decide if it should be corrected. If you decide that it could cause problems, then the misunderstanding should be addressed as soon as possible. Waiting often intensifies the problems and makes addressing the misunderstanding a more burdensome task.

We sometimes ignore a misunderstanding or delay addressing it because we are afraid of losing face or of threatening another person's face. Don't be afraid to admit confusion or misunderstanding. People generally prefer to work on achieving shared understanding during the initial interaction, rather than correct errors caused by the misunderstanding at a later time.

■ *Improving Representation: Things a Speaker Can Do*

Just as you can work to improve your comprehension of messages as a listener, you can work to improve the degree to which your own messages are understood. Again, there is an assumption here that you want your message to be understood rather than to baffle your listeners. A sincere commitment to improving the comprehensibility of your messages relies on understanding your listeners, being

What do these two people need to know about one another to enhance their understanding of one another's messages?

sensitive to feedback, creating clear messages, and double-checking that listeners understand.

Improve social decentering. How will the other person interpret what you are saying? What other interpretations are possible besides the one you intend? Your goal is to get your message through clearly. Are the words you choose or the accompanying behaviors you display creating any "noise," or interference, that will cause miscomprehension for the listener?

The more you know about your listener, the more effectively you can choose language that will be understood. Most of us intuitively change the words we use when talking to children because we realize they won't understand many of our "adult" words. With other adults, however, egocentric communication is a significant contributor to misrepresentation. We fail to recognize that the listener is different from us and has different reactions to what we say. Consequently, we may use language that, from the other person's perspective, is ambiguous or misleading. Our intercultural interactions are often marred by a failure to appreciate the effects of culture on another person's understanding of our messages.

You can engage in social decentering by listening to your message from the other person's perspective. Suppose you want your roommate to turn down the stereo so you can study. You could say, "Hey! I'm trying to study." But your roommate enjoys having the stereo playing loudly when studying and therefore doesn't comprehend your statement as a request to turn down the stereo. You failed to take your roommate's perspective when considering how your message would be heard. Taking into account your roommate's habits means creating a more developed request: "I'm studying for a big exam tomorrow and I really can't study very well with the stereo on. Would you be willing to listen through the headset?"

Improve perception of feedback. Speakers sometimes ignore the fact that they are receiving continual reactions to their messages. You need to monitor the feedback you receive from those with whom you are interacting. This includes watching nonverbal behaviors and being sensitive to the undertones of verbal messages.

In scenario 2 at the beginning of this chapter, the employee you are training gives contradictory feedback, nodding her head to show understanding while responding to your question about whether she understands you by saying, "Yeah, I, um, think so." The way the scenario is written, the hesitancy and uncertainty the employee conveys is not picked up. How close is this to your real behavior?

To improve your skills, you need to be sensitive to the verbal and nonverbal feedback you receive that might indicate miscomprehension. You may need to ask listeners more than once if they really understand you. And you need to ask in such a way that they know you are receptive to questions and it's okay to admit confusion. One rule of presentational speaking is this: After asking if there are any questions, slowly count to three before continuing. The use of silence and waiting is one way to signal that you really are open to questions. Teachers sometimes think that all the students must have understood what was said at a lecture because there were no questions. Effective teachers, however, are constantly scanning the students' faces for signs of confusion.

Improve message delivery. You have many options for encoding your messages, and this means that some messages will be more comprehensible than others. Several points germane to this principle have already been covered, such as adapting the language and avoiding ambiguous or equivocal language. Here are some other suggestions.

- Organize information in a manner that facilitates retention.
- Keep your message interesting so that listeners will be less likely to tune out.
- Repeat what you have said.
- Rephrase what you have said and say it again.
- Try to keep your nonverbal behaviors consistent with your verbal message, avoiding contradictory cues that create confusion.
- Use nonverbal cues to emphasize important points.
- Include examples relevant to your listener.

Seek paraphrases. A final way you can help comprehension is by asking your listener to paraphrase what you have said. Listeners may be reluctant to volunteer a restatement of what you have just said, so they may need encouragement from you. Sometimes, however, asking for paraphrasing can put people on the spot. There is an implicit threat to face: "All right now, let's see if you were really listening." You have witnessed teachers calling on students who aren't paying attention, a technique that usually results only in laughter and embarrassment. The request for paraphrasing needs to be made in a way that minimizes threat to face. You might say something like "I don't know if I said that very clearly. Why don't you tell me what you heard, and I'll try to clear up any parts that might be confusing."

Which of the skills for improving understanding are your strongest? Which skills need the most improvement? How might you go about improving them?

Similarly, which of the skills for reducing misrepresentation are your strongest? Which need the most improvement? How might you go about improving them?

The Challenge of Managing Conflicts

Misunderstanding and misrepresentation can lead to conflicts as individuals try to allocate blame for problems or deal with the fallout from the miscomprehension. The manifestations of conflict can vary, but there are fundamental commonalities, which we will review here. Later in the text, you'll find more specific advice that is appropriate for each communication category. In general, conflicts need to be managed in such a way as to reduce the debilitating effects they have on effective and healthy communication.

Defining Conflict

Conflict is the interaction of interdependent people over real or falsely perceived incompatible goals and/or interference from each other in achieving goals.[25] This definition may seem complicated, so let's take it apart and examine each component.

Conflict involves interaction. You may be upset with a decision made by your boss, but it is not a conflict unless you actually raise the issue with your boss, directly interacting with your boss about the decision. Your feelings may affect your communication with your boss, but unless you voice your concerns, what occurs is more appropriately considered negative, hostile, aggressive, or defensive communication rather than conflict.

There are many cases in which we decide we are better off ignoring an issue of potential conflict or finding some alternative way of reaching our goals. We are likely to apply social exchange principles to reach a decision about whether to initiate a conflict. That is, we evaluate the value of winning the conflict (achieving our goal) as well as our potential for winning the conflict (likelihood of success). We weigh these against the costs of engaging in the conflict—the damage that might be caused and the cost to us if we lose. We then decide whether the rewards outweigh the costs. There are times, however, when we act more impulsively and charge right into conflict situations. Also, we are sometimes drawn into a conflict by other people's actions.

The management of conflict can vary. It can be direct and focused on resolving the matter, or it can be indirect and sustained. Once the conflict is initiated, the parties involved may attempt to resolve it with dispatch, or they may continue the conflict for some time because of a failure to find a way of overcoming the issues (as in a feud). Sometimes conflicts are best managed by simply deciding to move on without reaching any final resolution. In that case, the parties recognize each other's points of view and accept that their views are different; they agree to disagree.

Conflict involves people who are interdependent. The second part of the definition, interdependence, means that the conflicting parties are dependent on each other for something. Differences in their level of dependence can have a dramatic effect on their actions. A student's conflict with an instructor, for example, usually reflects a significant difference in dependence, with the student being more dependent than the instructor. As a result, the student is limited in the strategies or actions that can be used to resolve the conflict.

Sometimes only one party is dependent on the other. In such cases, there is no *inter*dependence, and conflict doesn't really happen, though hostility and frustration certainly do. Perhaps you have been in a romantic relationship that you wanted to maintain (making you dependent on the other person), but your partner was no longer interested (no dependence). In this circumstance, your attempts to raise issues of conflict would usually be ignored by your partner, who would feel no compulsion to deal with the issues.

Conflict involves the parties' goals. The last part of the definition of conflict focuses on goals. Goals can be classified as indivisible or opposing. **Indivisible goals** are goals that only one party can attain. In essence, they are winner-take-all goals. Most sports, for example, allow only one person or team to be victorious, so the goal of winning the game is an indivisible one. **Opposing goals** are goals that prevent each other from being attained. When one party sees his or her goals blocked by the goals of the other party (or both parties see their goals blocked by

the other's goals), it is a case of opposing goals. Parents attempting to accomplish their goal of protecting their children may set a curfew of eleven o'clock for a sixteen-year-old. The young person, who has the goal of having a good time with friends, wants to stay out till one o'clock. The ensuing conflict occurs because the teenager and the parents perceive themselves as having opposing goals.

A distinction is made between real and falsely perceived goal differences. *Real goal differences* exist when the parties are vying for a goal that is indeed indivisible or for separate goals that are truly blocked by each other. *Falsely perceived differences* exist when the parties see their goals as being in conflict although in reality they share similar goals. Conflicts over falsely perceived differences usually occur because people have misunderstood or misrepresented their goals or the situation.

Resolution of falsely perceived goal differences is usually easier to manage than resolution of real differences, and it often depends on the methods for improving comprehension skills that were discussed earlier. You and a friend might have a conflict over plans for Saturday night. You want to go dancing at a club, but your friend wants to go to a movie. You see your goals as opposing one another. One solution would be for each of you to do your own thing, but this is usually not desirable because the underlying goal that you both share is to spend time together. Another solution is to recognize that your goals don't have to be perceived as opposing; you could actually do both activities. You could go to a movie and then go out dancing afterward. (Of course, this is an expensive solution and might conflict with a goal of fiscal restraint. I don't have all the answers!)

■ *Categories of Conflict*

Conflict can occur anytime people communicate, because communication involves attempting to achieve goals. Most of the time, fortunately, our goals are compatible or the differences are not significant enough to warrant conflict.

When conflicts do occur, they can appear in any of the communication categories identified in Chapter 1.

- Intrapersonal conflicts occur when we have to make decisions for which there are several choices. For example, do you go to a party tonight or study for tomorrow's exam? This creates a conflict between the goal of having a good time and the goal of being a good student. In a sense, the parties to the conflict are different aspects of your self.
- Interpersonal conflicts are probably the most common. They occur in interpersonal relationships in which interdependence is a defining element.
- In small groups, conflict occurs among group members (intragroup conflict, which is a form of interpersonal conflict) and among groups (intergroup conflict).
- Organizational conflicts include interpersonal conflicts and group conflicts as well as interorganizational conflicts (between organizations). If an environmental group challenges a manufacturing company's plans to build a factory in a wetland, the result is interorganizational conflict.
- In mass communication, the conflicts are generally interorganizational conflicts in which one organization, such as a consumers advocacy group, challenges a mass media organization. For instance, a consumers group might

challenge television networks in connection with the TV rating system, children's programming, or the preponderance of sex and violence on TV.

- In presentational communication, you may think conflicts are unlikely, but speakers often find themselves confronted by resistant or belligerent audiences and even hecklers. Many presentations also involve question-and-answer periods that have the potential to spawn conflicts.

Conflict Management Styles

Good conflict management does not necessarily mean that the conflict is resolved. Rather, it means that we choose the best option for handling a conflict—that is, the way that best protects our interests. The basic options, which we can call *conflict management styles*, include avoidance, accommodation, competition, compromise, and collaboration.

Figure 5.1 shows how these styles differ in terms of concern for your own goals (competitiveness) and concern for the other person's goals (cooperativeness). The competitive axis ranges from having no real concern for your own goals to an extremely strong commitment to getting what you want. The cooperative axis ranges from no concern for the other person's goals to a strong desire to provide the other person what he or she wants. The five styles reflect different combinations of the two types of concern. The conflict management style you choose depends on the nature of the conflict, your needs, and your relationship to the other party.

Source: Adapted from C. Berryman-Fink and C. C. Brunner, "The Effect of Sex of Source and Target on Interpersonal Conflict Management Styles," *Southern Speech Communication Journal,* 53 (1987): 38–48.

Figure 5.1
Conflict Management Styles

- *Avoidance* involves strategically evading direct discussion of the conflict. This might be the most useful strategy when a situation becomes emotionally charged. Avoidance lets you put the conflict aside until everyone is calm. You also might use avoidance when the issues are not particularly important and when focusing on the conflict could damage the relationship.[26]
- *Accommodation* means that you let the other party fulfill his or her goal while your immediate goal is set aside. This strategy would be effective when the issue is not as important for you as you perceive it is for the other person. Accommodation is also a good way to show your reasonableness and commitment to the health of the relationship. Accommodation on one issue can be used as a strategy for gaining accommodation by the other person on a later issue: "I let you have your way last time, now it's my turn."
- *Competition* is an appropriate strategy when you really are dealing with an indivisible goal that is important to you and when the relationship is much less important. Competition sends a clear message about your commitment to the goal, and it works best when there is a need for quick, decisive action.
- *Compromise* is also an effective way to reach quick decisions and overcome stalemates. It is particularly useful when the parties are fairly equal in power. You may also decide on compromise if you are losing a competition. Compromise lets both parties feel as though they have fulfilled part of their goals (though it also means they have given up part of their goals).
- *Collaboration* is an attempt to reach an agreement in which both parties' goals are fulfilled. The earlier example of going to a movie and then dancing is an example of collaborative management of a conflict. Collaboration takes time, energy, and respect by each party for the other party's goals; therefore, its application is limited.

How ethical is it to use deception as a way of resolving conflict? Or to overstate your needs in hopes of reaching a compromise that gives you what you really wanted all along? Or to use face-threatening tactics as a way to resolve a conflict in your favor?

■ General Conflict Management Skills

Each conflict presents unique challenges. There are, however, some general guidelines you can follow to manage conflict more effectively. One critical factor is to maintain effective communication. You have probably witnessed more than one conflict, such as a labor-management dispute or an interpersonal confrontation, in which communication broke down and the conflicting parties refused even to talk with each other. Keeping communication flowing during a conflict requires managing emotions, managing the information, and managing the flow of the conflict itself.

Managing emotions. Conflicts threaten your negative face by preventing you from accomplishing your goals. Conflicts can also include direct threats to your positive face ("You're an idiot, and you don't know what you are talking about!"). Threats to either your positive or your negative face evoke emotions, and becoming too emotional can hamper your ability to manage a conflict effectively. Here's an example of such a process:

JACKIE We really need to add another salesperson to my district. I can't get the coverage I need with just the four people I have.

JACE Everybody thinks they need more staff. Maybe your staff is full of goof-offs and deadbeats.

JACKIE (raising her voice) You're an idiot! My people are working their butts off. You just don't want me to be successful.

JACE (also raising his voice) Then maybe it's their manager that's the problem!

JACKIE (louder) Are you saying I'm not doing my job? You're a moron!!

JACE (also louder) You can't call me names. *You're fired!!*

In this scenario, both parties should have called time out and broken off the interaction when their emotions started to get out of control. The use of avoidance would have helped both Jackie and Jace calm down. Both individuals had their face threatened and responded by further threatening the other's face, rather than helping each other maintain face.

The following suggestions can help you manage the destructive impact of unbridled emotions:

- Avoid aggressive messages—name-calling, personal attacks, and other direct face-threatening acts.
- Avoid emotional exaggerations and extremes. It's okay to be intense—emotions are unavoidable—but you don't have to be belligerent.
- Describe your emotions and ask the other people to describe their emotions when the situation calls for it. There are times when emotions are part of the conflict and need to be discussed. Hiding or ignoring emotions can result in destructive, volcanic eruptions of emotion.
- Listen to and watch yourself. What emotions are you displaying? How will the other person respond to those displays? You've probably been told things like "Don't look at me that way!" or "Quit smiling at me, I'm really upset." Our nonverbal cues can heighten emotional tension.
- Choose a time and place that are most conducive to a relaxed interaction. Being called into the dean's office in school or the boss's office at work can immediately raise a person's anxiety. Likewise, trying to discuss a conflict with people at the end of the day when they are tired or when they are swamped with work increases the likelihood of emotional interference.

Managing information. We also manage conflicts by the way we manage information. Jace's comment about Jackie's sales staff evoked her defensiveness. Jace should have been aware that his offhand remark would upset her. He should have either stated the issue in a more constructive manner or dealt with the issue of Jackie's staff on another occasion. A number of rules apply to managing information during a conflict.

1. *Plan your message.* You can more easily state your concern about a point of conflict if you have planned in advance what you are going to say, rather than addressing the issue on the spur of the moment. Planning the message lets you consider how the other person might react and lets you choose language that is least likely to evoke a strong emotional reaction.

2. *Approach the issue from a problem-oriented perspective rather than an evaluative one.* Evaluative statements evoke defensiveness, whereas statements that focus on specific behaviors or issues tend to be supportive.[27] Jace could have approached the issue of Jackie's sales staff in a problem-oriented manner by saying, "Why don't we look at what your current staff is doing and see if there are any ways to improve their effectiveness?"
3. *Separate the issues from the person, and deal only with the issues.* We sometimes are lured into criticizing and evaluating the individual rather than dealing with the point of conflict. Jace and Jackie needed to deal with the issues of Jackie wanting to be more successful and Jace feeling the need to keep employee costs down. Instead, Jackie began focusing on Jace and drifted away from her own needs and goals.
4. *Seek information to understand the conflict more fully.* This includes seeking information from outside sources and directly from the other party. It also means listening effectively to what the other party is telling you and applying active listening skills.
5. *Share information with the other party.* Hiding information undermines trust and encourages the other party to hide information from you as well. Openly sharing information helps the other party learn about your position and establishes a climate of cooperation.

Managing the conflict. Managing emotions and information puts you in a position to manage the conflict effectively. Each of the five styles mentioned earlier is a possible way of managing conflicts. There are also rules you can follow to improve the process for all the parties.

1. *Define and focus on the problem.* This might seem like an obvious thing to do, but we often lose sight of the issues during conflicts. In addition, the parties in the conflict often have different definitions of the problem. In either case, it becomes important to mutually define the problem. In defining the problem, both parties need to present their goals and needs. Both parties need to listen to and appreciate the needs and goals of the other person. Sometimes we dismiss the other person's goals because we don't see them as valid or important. Such judgments only serve to heighten tensions and raise the ire of the other party.
2. *Analyze the problem.* Analysis of the problem again involves both parties' presenting their perspective on what created the problem, the impact of the problem, and the reasons the problem persists. This discussion should include an attempt to find similarities between the conflicting parties. In the conflict described earlier, Jackie and Jace both want to see high sales and good profits in Jackie's territory. In analyzing the problem, they would have realized that Jackie saw the problem as too large a territory for the number of staff, and Jace saw the problem as an inefficient staff. This would have led them to explore the question of staffing efficiency.
3. *Define a mutually acceptable goal.* The conflict is practically over once this step is accomplished. However, this is much easier said than done. At this point, both parties must be willing to cooperate in defining a goal that is acceptable to both. This can be accomplished by integrating the goals and needs of both

parties, often creatively. Jackie and Jace probably could agree on the goal of maximizing sales while minimizing costs in her district.

4. *Generate multiple solutions to the problem.* Once a common goal has been identified, the parties should work to generate a number of alternative solutions. At times we are sucked into focusing on only one solution—just as Jackie saw the addition of a staff member as the only solution to her problem. Even if one solution seems apparent, try to generate as many other possibilities as you can. Valuable, innovative ideas often arise during the process of brainstorming alternatives. The best solution might be one that has integrated components of various alternatives.
5. *Select the best solution.* Once a list of alternative solutions has been generated, the parties can begin to analyze each choice in terms of how well it fulfills their mutually agreed-on goal. At this point, details are needed about how to implement the solution and monitor its effectiveness, as well as agreement on what steps to take if the selection does not seem to be working.

Think of a current conflict you are having. What are your goals and needs? What are the other party's goals? What commonalities are there in your goals and interests? What do you see as the underlying causes of the conflict? How would the other party describe the causes of the conflict? What would happen if you approached this person using the method we have just described?

Remember, the challenges to communication discussed in this chapter apply to all communication situations. Each time we interact with others, we risk threats to our face, the possibility of miscomprehension, and the development of conflict. Fear of such possibilities should not cause us to avoid communication; rather, knowledge of how to manage these challenges should lead us to be more effective in our dealings with other people.

A PEOPLE AND A NATION

A HISTORY OF THE UNITED STATES

Volume Two, Since 1865

Sixth Edition

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Reform and Conflict at Home: A Turbulent Era 1961–1974

In 1964 politics and civil rights claimed front-page news, and they were inextricably tied together. When the Democrats convened in Atlantic City, New Jersey, to pick a presidential candidate in that election year, they discovered the volatility of the civil rights issue. Two delegations had arrived from Mississippi demanding to be seated. One was all white; the other was largely African American and called itself the Mississippi Freedom Democratic Party (MFDP). The MFDP asked the convention to honor its credentials instead of those of the state's vehemently segregationist regular Democratic organization.

In Mississippi, as a result of phony literacy tests, economic intimidation, and violence, less than 7 percent of the black population could vote. Civil rights activists had decided in 1963 to conduct their own "freedom vote"—a mock election to prove, as one worker put it, "that politics is not just white folks' business." And in 1964 the MFDP ran candidates for Congress. The same year, more than a thousand northern students traveled south to Mississippi to work for the Freedom Summer Project, registering voters and organizing protests against segregation. But these challenges to white supremacy did not go unanswered. White vigilantes bombed and burned two dozen black churches, and sheriff's deputies murdered three young civil rights workers—one black and two white—in Philadelphia, Mississippi.

The Democratic Party's credentials committee met on August 22, 1964, to hear the contesting delegations. The hearings were nationally televised. Speaking for the MFDP was an inspiring figure, Fannie Lou Hamer, a forty-six-year-old African American organizer for the Student Nonviolent Coordinating Committee (SNCC). Born in 1917, she was the twentieth child of sharecropper parents. At age six, she went to work chopping and picking in the cotton fields, and by the time she was thirteen, she was pick-

Civil Rights and the New Frontier
The Great Society and the Triumph of Liberalism
Civil Rights Disillusionment, Race Riots, and Black Power
The New Left and the Counterculture
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ing from three to four hundred pounds a day on a plantation in Sunflower County.

In the early 1960s Fannie Lou Hamer began to envision a better future through the direct action of the civil rights movement. Paraphrasing John F. Kennedy's 1961 inaugural address, she explained, "I am determined to give my part not for what the movement can do for me, but what I can do for the movement to bring about a change in the State of Mississippi." In 1962 she lost her job on the plantation when she attempted to register to vote. Then, fearing violence, she fled to a neighbor's home, which was soon riddled with bullets intended for her. The next year, Hamer was arrested with five other SNCC volunteers in Winona, Mississippi, taken to jail, and brutally assaulted by police swinging blackjacks. By 1964 Hamer had become a field worker for SNCC, known for her courage and refusal to surrender as well as for her inspiring speeches and singing. She began her speeches with a spiritual; often it was her favorite, "This Little Light of Mine."

Sitting before the credentials committee and the television cameras in Atlantic City, Hamer told the country about her experience in the Winona jail. "I was beaten until I was exhausted," she recalled. "I began to scream, and one white man got up and began to beat me on the head and tell me to hush. . . . All of this on account we wanted to register, to become first class citizens." She insisted that the MFDP—those who had fought for freedom—be seated, not those who opposed it. If "the Freedom Party is not seated now, I question America," she said. Emotion filled her voice as she asked, "Is this America, the land of the free and the home of the brave, where we have to sleep with our telephones off the hooks because our lives be threatened daily, because we want to live as decent human beings, in America?"

The MFDP did not receive justice from President Johnson or the Democratic Party. Offered a consolation prize of two seats, the MFDP refused. "We didn't come all this way for no two seats," Hamer said, "when *all* of us is tired." In that election year, Johnson would not alienate powerful southern white politicians by seating the civil rights delegation, but his action threw into question the Democrats' commitment to racial equality. It was already too late, moreover, to placate white southerners who had begun to switch to the more conservative Republican Party. Despite Johnson's capitulation to Mississippi's regular Democrats, the state's whites voted for Senator Barry Goldwater, the Republican candidate, in 1964. Civil rights had become the most important political issue in the country, threatening to destroy the New Deal coalition in the South and the North.

The civil rights movement became a dynamic motive force in American society in the 1960s, helping to give birth in subsequent years to the antiwar movement, the New Left, a resurgent feminist movement, the environmental movement, and equality movements for other minorities. The civil rights movement also energized the presidential politics of John F. Kennedy and Lyndon B. Johnson. Kennedy's call for a New Frontier had inspired liberal Democrats, idealists, and brave young activists to work to eliminate poverty, segregation, and voting rights abuses. But Americans' dreams were shattered on November 22, 1963, when President Kennedy was assassinated in Dallas. For four days Americans wept, prayed, and gazed at their television sets, numbed by the unbelievable. "In retrospect," journalist Godfrey Hodgson has written, "people looked back to Friday, November 22, 1963, as the end of a time of hope, the beginning of a time of troubles."

Lyndon Johnson, who asked for national unity in the wake of the Kennedy assassination, was a strong political leader who knew what he wanted. Johnson presided over what he called the Great Society, a flood of legislation designed to eradicate poverty in the United States and guarantee equal rights to all its citizens. But even during these years of liberal triumph, anger and social tension intermittently flared into violence. Beginning with Kennedy's assassination in 1963, ten years of bloodshed—race riots, the murders of other political and civil rights leaders, and the war in Vietnam—shattered the optimism of the Kennedy and Johnson eras.

Urban blacks were angry that poverty and segregation persisted despite the passage of landmark civil rights laws, and their discontent exploded during the "long hot summers" of the 1960s. This social turbulence added to snowballing white opposition to the civil rights movement, prompting many Americans to shift to the right politically. In 1968 the Republican Richard M. Nixon was elected president, but his presidency polarized the nation still further. The presidencies of Nixon's two immediate predecessors had ended tragically: Dallas and Vietnam were the sites of their undoing. A third location, the Watergate apartment-office complex in Washington, D.C., marked Richard Nixon's downfall. In 1974, the corruption of his administration having been exposed, he resigned from office, the only American president to have done so.

IMPORTANT EVENTS

1960 Sit-ins begin in Greensboro
Birth-control pill approved for use
Kennedy elected president

1961 Freedom Rides protest segregation in transportation
President's Commission on the Status of Women established

1962 Glenn orbits globe in space capsule
Students for a Democratic Society issues Port Huron Statement
Meredith enters University of Mississippi
Baker v. Carr establishes "one person, one vote" principle

1963 Friedan's *The Feminine Mystique* published
Civil rights advocates march on Washington
Baptist church in Birmingham bombed
Kennedy assassinated; Johnson becomes president

1964 Economic Opportunity Act allocates funds to fight poverty
Civil Rights Act outlaws discrimination in jobs and public accommodations
Twenty-fourth Amendment outlaws the poll tax in federal elections
Riots break out in first of the "long hot summers"
Hamer speaks on behalf of Mississippi Freedom Democratic Party at Democratic convention
Free Speech movement begins at Berkeley
Johnson elected president

1965 Malcolm X assassinated
Voting Rights Act allows federal supervision of voting registration
Medicare and Medicaid programs begun
Elementary and Secondary Education Act provides federal aid to education
Watts race riot leaves thirty-four dead
Immigration and Nationality Act lowers barriers to certain ethnic and racial groups

1966 National Organization for Women founded
Miranda v. Arizona requires police to inform suspects of their rights

1967 Race riots erupt in Newark, Detroit, and other cities
Twenty-fifth Amendment establishes the order of presidential succession

1968 U.S.S. *Pueblo* captured by North Korea
Tet offensive causes fear of losing war
King assassinated
African Americans riot in 168 cities and towns
Civil Rights Act bans housing discrimination
Antiwar protests escalate
R. Kennedy assassinated
Violence erupts at Democratic convention
Nixon elected president

1969 Stonewall riot sparked by police harassment of homosexuals
Apollo 11 lands on moon
400,000 gather at Woodstock festival
Moratorium Day calls for end to war

1970 United States invades Cambodia
Students killed at Kent State and Jackson State Universities
First Earth Day celebrated
Environmental Protection Agency created

1971 *Pentagon Papers* published
Twenty-sixth Amendment extends vote to eighteen-year-olds
Inmates revolt at Attica prison
Swann v. Charlotte-Mecklenberg upholds North Carolina desegregation plan

1972 Nixon visits China and Soviet Union
Congress approves ERA
Wallace shot and paralyzed
"Plumbers" break into Watergate
Revenue sharing distributes funds to states
Nixon reelected

1973 Watergate burglars tried
Ervin chairs Watergate hearings
White House aides Ehrlichman and Haldeman resign
Roe v. Wade legalizes abortion
War Powers Act passed
Agnew resigns; Ford named vice president
Saturday Night Massacre provokes outcry

1974 Supreme Court orders Nixon to release White House tapes
House Judiciary Committee votes to impeach Nixon
Nixon resigns; Ford becomes president
Ford pardons Nixon
Freedom of Information Act passed over Ford's veto

Battered by more than a decade of turmoil, many Americans became cynical and ceased to believe in the American Dream.

Civil Rights and the New Frontier

President John F. Kennedy was, as the writer Norman Mailer observed, "our leading man." Young, handsome, and vigorous, the new chief executive was the first president born in the twentieth century. Kennedy had a genuinely inquiring mind, and as a patron of the arts he brought wit and sophistication to the White House. Kennedy was born to wealth and politics: his Irish American grandfather had been mayor of Boston, and his millionaire father, Joseph P. Kennedy, had served as ambassador to Great Britain. In 1946 the young Kennedy, having returned from the Second World War a naval hero, perpetuated the family tradition by campaigning to represent Boston in the House of Representatives. He won easily, served three terms in the House, and in 1952 was elected to the Senate.

President John F. Kennedy, his wife Jacqueline, and their two young children, John Jr. and Caroline, symbolized youthful energy and idealism. This photograph was taken at their vacation home at Hyannisport on Cape Cod in July 1963. (John F. Kennedy Library)

As a Democrat, Kennedy inherited the New Deal commitment to America's social welfare system. He generally cast liberal votes in line with the prolabor sentiments of his low-income, blue-collar constituents. But he avoided controversial issues such as civil rights and the censure of Joseph McCarthy. Kennedy won a Pulitzer Prize for *Profiles in Courage* (1956), a study of politicians who had acted on principle, but he shaded the truth when he claimed sole authorship of the book, which had been written largely by his staff. As one critic put it, he himself showed "too much profile and not enough courage." Kennedy nevertheless enjoyed an enthusiastic following, especially after his landslide reelection to the Senate in 1958.

Kennedy's vitality and style captured the imagination of many Americans. In a departure from the Eisenhower administration's staid, conservative image, the new president surrounded himself with young men of intellectual verve who proclaimed that they had fresh ideas for invigorating the nation; the writer David Halberstam called them "the best and the brightest" (Kennedy appointed only one woman to a significant position). Secretary of Defense Robert McNamara (age forty-four) had been an assistant professor at Harvard at twenty-four and later the whiz-kid president of the Ford Motor Company. Kennedy's special assistant for national security affairs, McGeorge Bundy (age forty-one) had become a Harvard dean at thirty-four with only a bachelor's degree. Kennedy himself was only forty-three, and his brother Robert, the attorney general, was thirty-five.

"The Best and the Brightest"

Kennedy's ambitious program, the New Frontier, promised more than the president could deliver: an end to racial discrimination, federal aid to education, medical care for the elderly, and government action to halt the recession the country was suffering. Only eight months into his first year, it was evident that Kennedy lacked the ability to move Congress, which was dominated by a conservative coalition of Republicans and southern Democrats.

The New Frontier

Struggling to appease conservative southern members of Congress, the new president appointed five die-hard segregationists to the federal bench in the Deep South, and he pursued civil rights with a notable lack of vigor. Kennedy did establish the President's Committee on Equal Employment Opportunity

to eliminate racial discrimination in government hiring. But he waited until late 1962 before honoring a 1960 campaign pledge to issue an executive order forbidding segregation in federally subsidized housing. The struggle for racial equality was the most important domestic issue of the time, and Kennedy's performance disheartened civil rights advocates.

Despite President Kennedy's lack of support, African American civil rights activists in the early 1960s continued their struggle through the tactic of nonviolent civil disobedience. Volunteers organized by SNCC and by the Southern Christian Leadership Conference (SCLC), headed by Reverend Martin Luther King, Jr., deliberately violated segregation laws by sitting in at whites-only lunch counters, libraries, and bus stations in the South. The Congress of Racial Equality (CORE) initiated the Freedom Rides in May 1961: an integrated group of thirteen people boarded a bus in Washington, D.C., and traveled into the South, where they braved attacks by white mobs for daring to desegregate interstate transportation.

Student Nonviolent Coordinating Committee

In the South many black high-school and college students joined SNCC, established in 1960 soon after the sit-ins began in Greensboro, North Carolina (see page 804). These young people walked the dusty back roads of Mississippi and Georgia, encouraging African Americans to resist segregation and register to vote. Some SNCC volunteers were white, and some were from the North; but most were black southerners, and many were from low-income families. These volunteers understood from experience how racism, powerlessness, and poverty intersected in the lives of African Americans.

"I Have a Dream"

As the civil rights movement gained momentum, President Kennedy gradually made a commitment to first-class citizenship for blacks. In 1962 he ordered U.S. marshals to protect James Meredith, the first African American student to attend the University of Mississippi. The

A historic moment for the civil rights movement was the March on Washington of August 28, 1963. The Reverend Martin Luther King, Jr. *(center),* joined a quarter of a million black people and white people in their march for racial equality. Addressing civil rights supporters, and the nation, from the steps of the Lincoln Memorial, King delivered his "I Have a Dream" speech. (R. W. Kelley, LIFE magazine © Time, Inc.)

following spring, under court order, federal officials ignored the defiant governor of Alabama, George C. Wallace, and forced the desegregation of the University of Alabama. And in June 1963 Kennedy finally requested legislation to outlaw racial discrimination in employment and racial segregation in public accommodations. When more than 250,000 people, black and white, gathered at the Lincoln Memorial for a March on Washington that August, they did so with the knowledge that President Kennedy was at last on their side. They also heard a most memorable speech: "I have a dream," the civil rights movement's inspirational leader, Martin Luther King, Jr., told the crowd, "that my four little children will one day live in a nation where they will not be judged by the color of their skin but by the content of their character."

The television nightly news programs brought the civil rights struggles into Americans' homes. The story was sometimes grisly. In 1963 Medgar Evers, director of the NAACP in Mississippi, was gunned down in his own driveway. The same year police in Birmingham, Alabama, under the command of Sheriff "Bull" Connor attacked nonviolent civil rights demonstrators, including children, with snarling dogs, fire hoses, and cattle prods. Then two horrifying events helped to convince reluctant politicians that action on civil rights was long overdue. In September white terrorists exploded a bomb during Sunday morning services at Birmingham's Sixteenth Street Baptist Church. Sunday school was in session, and four black girls were killed. A little more than two months later, John Kennedy was assassinated in Dallas.

The first dreadful flash from Dallas clattered over newsroom Teletype machines across the country at 1:34 p.m. Eastern Standard Time, November 22, 1963. Broadcast immediately on radio and television, the news was soon on the streets. Time stopped for Americans, and they experienced what psychologists call flashbulb memory, the freeze-framing of an exceptionally emotional event down to the most incidental detail. For an earlier generation, the indelible memory was of December 7, 1941. Now it was November 22, 1963, the day John Kennedy's promise was snuffed out.

The Kennedy Assassination

In New York City a driver stopped in the middle of a busy intersection and ran over to a sidewalk luncheonette. "Is it true?" he shouted. Without looking up, the counterman replied, "Yes, he's dead." The man returned to his car and slumped over the wheel, oblivious to the impatient honking around him. Ken Kesey's play *One Flew over the Cuckoo's Nest* had just opened on Broadway, and Kesey and a couple of friends were driving triumphantly back to the West Coast. They heard the news in Pennsylvania. As "we stopped in at service stations and Howard Johnson's and little fast-food places across the United States," Kesey later recalled, "a really profound thing happened to us. We felt like we were seeing the real soul of America with its shirt torn open in grief."

Kennedy's murder still baffles many Americans. Was the accused assassin, Lee Harvey Oswald, acting alone or as part of a conspiracy? What was his motive? Two days later, in full view of millions of TV viewers, Oswald himself was shot dead by a nightclub owner and small-time Mafia figure named Jack Ruby. The same questions were asked again: What was Ruby's motive? Was he silencing Oswald to prevent him from implicating others? Two years later, the seven-person Warren Commission, headed by Earl Warren, Chief Justice of the Supreme Court, issued a report that concluded Oswald had acted alone. But many Americans questioned this finding.

Who Killed President Kennedy?

Historians have wondered what John Kennedy would have accomplished had he lived. Although his legislative achievements were meager, he inspired genuine idealism in Americans. When Kennedy exhorted Americans in his inaugural address to "Ask not what your country can do for you; ask what you can do for your country," tens of thousands volunteered to spend two years of their lives in the Peace Corps. "We had such faith in what Kennedy was doing," recalled one volunteer, "and we all wanted to be a part of it."

Kennedy also promoted a sense of national purpose through his vigorous support of the space program. America lagged behind the Soviet Union, which sent a missile carrying cosmonaut Yuri Gagarin into orbit around the earth in April 1961. But Americans celebrated a month later when Alan Shepard, one of the seven original astronauts, rode the Mercury 3 missile into space. After marine lieutenant colonel John Glenn orbited the globe in a space capsule in February 1962, the United States accelerated its Apollo program, which developed more powerful rocket boosters and lunar landing vehicles for the first astronauts on the moon. Americans embraced Kennedy's challenge to put a man on the moon before the Soviets did and by the end of the decade. And on July 20, 1969, that

challenge was met when Apollo 11's lunar module, with two American astronauts aboard, landed on the moon.

Kennedy in Retrospect

In recent years, writers have drawn attention to Kennedy's recklessness in world events, such as authorizing the Bay of Pigs invasion of 1961 (see page 888) and CIA attempts to assassinate Cuba's leader Fidel Castro. They also have criticized his timidity in civil rights and have pointed to his extramarital sex life as evidence of a serious character flaw. It is clear, however, that Kennedy had begun to grow as president during his last few months in office. He made a moving appeal for racial equality and called for reductions in Cold War tensions. Partly because of the Kennedy aura of glamour and youth and hope, John Kennedy acquired an even loftier reputation in death than he had enjoyed in life. And in a peculiar way he accomplished more in death than in life. In the postassassination atmosphere of grief and remorse, Lyndon Johnson pushed through Congress practically the entire New Frontier agenda.

On July 20, 1969, American astronauts Neil A. Armstrong and Edwin E. (Buzz) Aldrin, Jr. *(shown above),* plant an American flag on the moon, thus fulfilling President John F. Kennedy's pledge to land a man on the moon by the end of the 1960s. (NASA)

The Great Society and the Triumph of Liberalism

The new president was a big man and a passionate one. As Senate majority leader from 1954 to 1960, Lyndon Johnson had learned how to manipulate people and power to achieve his ends. "This ponderous . . . Texan knows more about the sources of power in the political world of Washington than any president in this century," wrote columnists Rowland Evans and Robert Novak. "He can be gentle and solicitous as a nurse, but as ruthless and deceptive as a riverboat gambler." In the aftermath of the assassination, Johnson resolved to unite the country behind the unfulfilled legislative program of the martyred president. More than that, he wanted to realize Roosevelt's and Truman's unmet goals. He called his new program the Great Society.

Johnson made civil rights his top legislative priority. "No memorial oration or eulogy," he told a joint session of Congress five days after the assassination, "could more eloquently honor President Kennedy's memory than the earliest passage of the civil rights bill." Within months Johnson had signed into law the Civil Rights Act of 1964, which outlawed discrimination on the basis of race, color, religion, sex, or national origin, not only in public accommodations but also in employment. The act also authorized the government to withhold funds from public agencies that discriminated on the basis of race, and it empowered the attorney general to guarantee voting rights and end school segregation. In 1964 African Americans gained two additional victories. First, President Johnson appointed an Equal Employment Opportunity Commission to investigate and judge complaints of job discrimination. Second, the states ratified the Twenty-fourth Amendment to the Constitution, which outlawed the poll tax as a prerequisite for voting in federal elections.

Civil Rights Act of 1964

Surrounded by an illustrious group of civil rights leaders and members of Congress, President Lyndon B. Johnson signs the Civil Rights Act of 1964. Standing behind the president is Reverend Martin Luther King, Jr. (Corbis-Bettmann)

Johnson enunciated another priority in his first State of the Union address: "The administration today, here and now, declares unconditional war on poverty." Eight months later, he signed into law the Economic Opportunity Act of 1964, which allocated almost $1 billion for programs to assist the poor. The act became the opening salvo in Johnson's War on Poverty.

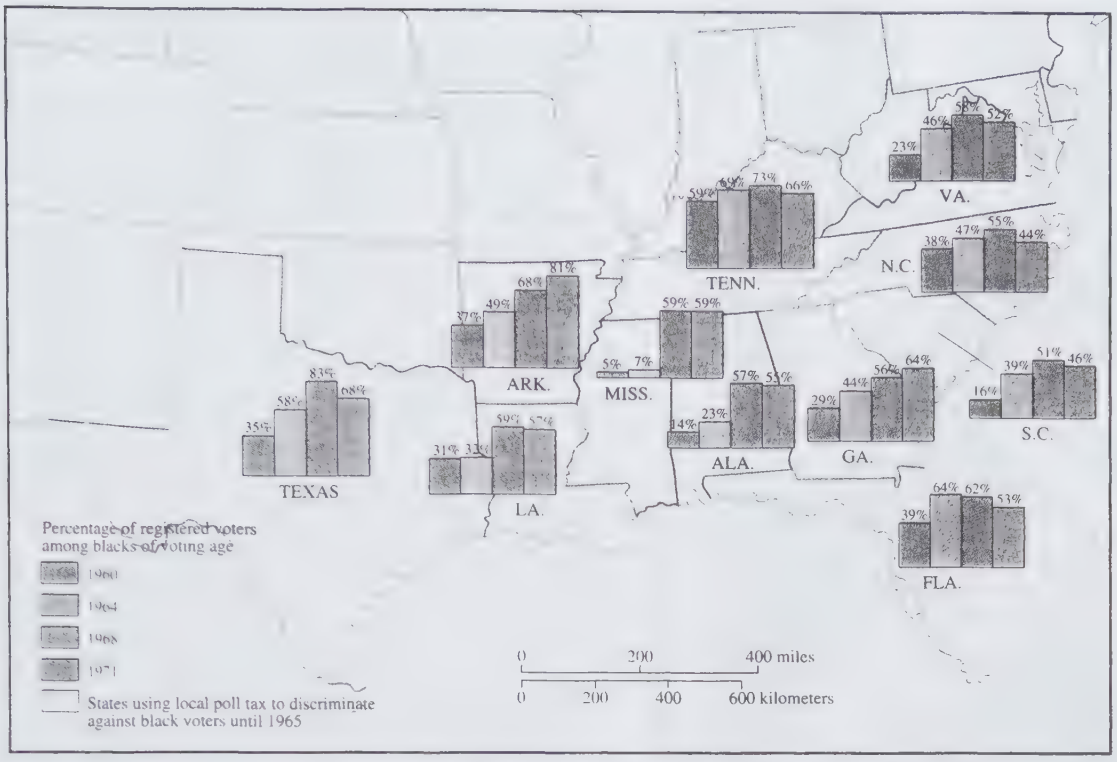
Election of 1964

In the year following Kennedy's death, Johnson sought to govern by appealing to the shared values and aspirations of the majority of the nation for continued economic growth and social justice. His lopsided victory over his conservative Republican opponent in 1964, Senator Barry Goldwater of Arizona, indicates that he succeeded. Johnson garnered 61 percent of the popular vote and the electoral votes of all but six states. Riding on Johnson's coattails, the Democrats won large majorities in both the House (295 to 140) and the Senate (68 to 32). Johnson recognized that the opportunity to push through further reform had arrived. Congress responded in 1965 and 1966 with the most sweeping reform legislation since 1935.

Voting Rights Act of 1965

Three bills enacted in 1965 were legislative milestones: the Medicare and Medicaid programs insured the elderly against medical and hospital bills and assisted the needy and disabled in paying for medical care; the Elementary and Secondary Education Act provided for general federal aid to education for the first time; and the Voting Rights Act of 1965 empowered the attorney general to supervise voter registration in areas where fewer than half of the minority residents of voting age were registered (see Map 30.1). In 1960 only 29 percent of the South's African American population was registered to vote; when Johnson left office in 1969, the proportion was approaching two-thirds. Even in Mississippi, one of the most resistant states, black registration figures grew from 7 percent in 1964 to 59 percent in 1968.

The flurry of legislation enacted into law during Johnson's presidency was staggering: establishment of the Department of Housing and Urban Development, the Department of Transportation, and the National Endowments for the Arts and Humanities; water- and air-quality improvement acts; and appropriations for



Map 30.1 African American Voting Rights, 1960–1971 After passage of the 1965 Voting Rights Act, African American registration skyrocketed in Mississippi and Alabama and rose substantially in other southern states. (Source: Harold W. Stanley, *Voter Mobilization and the Politics of Race: The South and Universal Suffrage, 1952–1984* [Praeger Publishers, an imprint of Greenwood Publishing Group, Westport, CT, 1987], p. 97. Copyright © 1987 by Harold W. Stanley. Used with permission.)

the most ambitious federal housing program since 1949, including rent supplements to low-income families. The Immigration and Nationality Act of 1965, the first overhaul of immigration law in forty years, lowered the barriers erected by the national origins quota system, which had severely restricted, or excluded altogether, certain ethnic and racial groups (see page 681). In 1968 Johnson signed another Civil Rights Act—his third—banning racial and religious discrimination in the sale and rental of housing. Another provision of this legislation, known as the Indian Bill of Rights, extended those constitutional protections to Native Americans living under tribal self-government on reservations.

By far the most ambitious of Johnson's initiatives was the War on Poverty. Beginning with a $1 billion appropriation in 1964, the War on Poverty evolved in 1965 and 1966 to include the Job Corps, to provide marketable skills, work experience, and remedial education for young people; Project Head Start, to prepare preschoolers from low-income families for grade school; and Upward Bound, to help high-school students from low-income families to prepare for a college education. Other antipoverty programs were Legal Services for the Poor, Volunteers in Service to America (VISTA), and the Model Cities program, which channeled federal funds to upgrade employment, housing, education, and health in targeted urban neighborhoods.

War on Poverty

The War on Poverty was a mixed success. For one thing, it was politically volatile because its "community-action programs" angered powerful mayors: it deliberately bypassed them and encouraged "maximum feasible participation" in decision making by the poor themselves, who served on antipoverty governing boards that allocated large sums of money. Furthermore, confusion abounded in the ambitious program.

This three-year-old Hispanic girl learns to read in a Head Start program. One of several programs established by the 1964 Economic Opportunity Act, Head Start prepared preschoolers from low-income families for grade school. (E. Crews/The Image Works)

Not even R. Sargent Shriver, who administered the War on Poverty as head of the Office of Economic Opportunity (OEO), could deny this: "It's like we . . . launched a half-dozen rockets at once," he later conceded. Another failing was that the War on Poverty did little to reduce poverty in rural areas or to discourage the South-to-North migration that was worsening already overwhelming poverty in northern inner cities.

Another group that remained poor despite antipoverty initiatives consisted of women and children living in female-headed families; they constituted 40 percent of the poor in the United States. The economic boom that lasted from 1963 to 1969 lifted 12 million people in male-headed families out of poverty. Left behind were 11 million in families headed by women (the same number as in 1963) who earned pitiful wages and frequently did not receive child-support payments from ex-husbands.

Successes in Reducing Poverty

Even so, in tandem with a rising gross national product (GNP), the War on Poverty substantially alleviated hunger and suffering in the United States. Its legislation directly addressed the debilitating housing, health, and nutritional deficiencies from which the poor suffered. Between 1965 and 1970, the GNP leaped from $685 billion to $977 billion, and federal spending for Social Security, health, welfare, and education more than doubled. Not only did some of this prosperity trickle down to the poor, but also—and more important—millions of new jobs were created. The result was a startling reduction in the number of poor people, from 25 percent of the population in 1962 to 11 percent in 1973 (see Figure 30.1). Particularly fortunate were the elderly, who benefited from large increases in Social Security benefits; poverty among the elderly dropped from about 40 percent in 1960 to 16 percent in 1974.

The period of liberal ascendancy represented by the War on Poverty was short-lived; most of the Great Society's legislative achievements occurred in 1964, 1965, and 1966 (see Table 30.1). Disillusioned with America's deepening involvement in Vietnam (see Chapter 31) and upset by the violence of urban race riots (see page 865), many of Johnson's allies began to reject both him and his liberal consensus.

The Warren Court

One branch of government, however, maintained the liberal tradition: the Supreme Court. Under the intellectual and moral leadership of Chief Justice Earl Warren, the Court in the 1960s was disposed by political conviction and a belief in judicial activism to play a central role in the resurgence of liberalism. In 1962 the Court began handing down a series of landmark decisions. *Baker v. Carr* (1962) and subsequent rulings established that the principle of "one person, one vote" must prevail at both the state and the national levels. This decision required the reapportionment of state legislatures by shifting seats from lightly populated rural areas to the burgeoning cities, so that each representative would serve the same number of constituents. The Court also outlawed required prayers and Bible reading in public schools, explaining that such practices imposed an "indirect coercive pressure upon religious minorities."

The Court also attacked the legal underpinning of the anti-Communist crusade, ruling in 1965 that a person need not register with the government as a member of a subversive organization because doing so would violate constitutional safeguards against self-incrimination. In *Griswold v. Connecticut* (1965), the Court ruled that a state law prohibiting the use of contraceptives by married couples violated "a marital right of privacy" and was unconstitutional. The Court upheld the Civil Rights Act of 1964 and the Voting Rights Act of 1965. In other rulings that particularly upset conservatives, the Court decreed that books, magazines, and films could not be banned as obscene unless they were found to be "utterly without redeeming social value."

Civil Rights Rulings

Perhaps most controversial of all was the Court's transformation of the criminal justice system. Beginning with *Gideon v. Wainwright* (1963), the Court ruled that a poor person charged with a felony had the right to a state-appointed lawyer. In *Escobedo v. Illinois* (1964), it decreed that the accused had a right to counsel during interrogation and a right to remain silent. *Miranda v. Arizona* (1966) established that police had to inform criminal suspects that they had these rights and that any statements they made could be used against them. Critics denounced the decisions as victories for criminals, and the right-wing John Birch Society campaigned to impeach Earl Warren.

Despite conservatives' demands for Warren's removal, constitutional historians consider him one of the two most influential chief justices in the nation's history (the other was John Marshall). Whether or not one approved of the decisions of the Warren Court (which ended with Warren's retirement in 1969), its effect on the American people is undeniable.

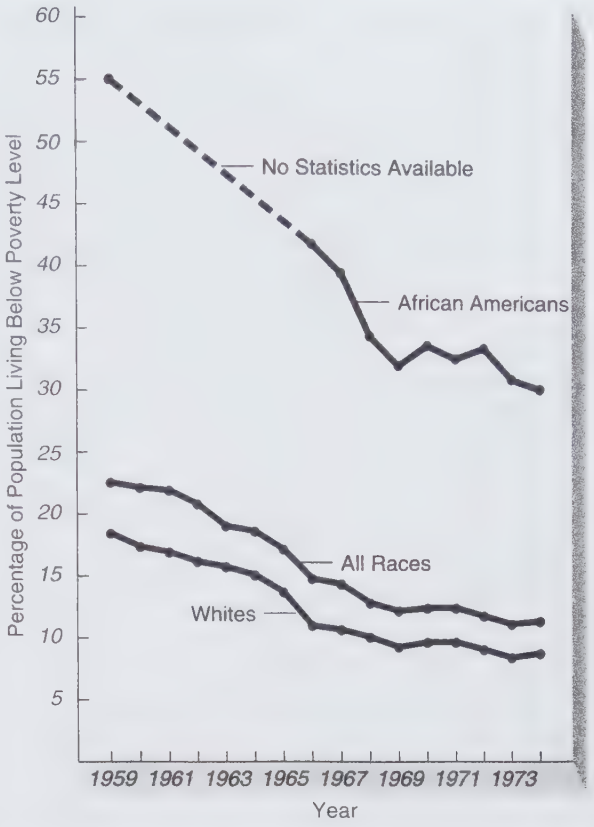


Figure 30.1 Poverty in America for Whites, African Americans, and All Races, 1959–1974 Because of rising levels of economic prosperity, combined with the impact of Great Society programs, the percentage of Americans living in poverty in 1974 was half as high as in 1959. African Americans still were far more likely than white Americans to be poor. In 1959 more than half of all blacks (55.1 percent) were poor; in 1974 the figure remained high (30.3 percent). The government did not record data on African American poverty for the years 1960 through 1965.

Civil Rights Disillusionment, Race Riots, and Black Power

Even while the civil rights movement was winning important victories in the mid-1960s, some activists began to grumble that the federal government was not to be trusted. Fannie Lou Hamer and the Mississippi Freedom Democratic Party felt betrayed by Lyndon Johnson and the Democrats at the 1964 Atlantic City convention, and evidence suggested that the Federal Bureau of Investigation was hostile to the civil rights movement. Indeed, it turned out that at least one FBI informant not only was a member of the Ku Klux Klan but also was a terrorist who instigated violence against volunteers in the civil rights movement. FBI director J. Edgar Hoover was a racist, activists charged, and they were disturbed by rumors (later confirmed) that Hoover had wiretapped and bugged Martin Luther King, Jr.'s hotel rooms and planted allegations in the newspapers about his sexual improprieties.

The year 1964 witnessed the first of the "long hot summers" of race riots in northern cities. In Harlem

Table 30.1 Great Society Achievements, 1964–1966

	1964	1965	1966
Civil Rights	Civil Rights Act Equal Employment Opportunity Commission Twenty-fourth Amendment	Voting Rights Act	
War on Poverty	Economic Opportunity Act Office of Economic Opportunity Job Corps Legal Services for the Poor VISTA		Model Cities
Education		Elementary and Secondary Education Act Head Start Upward Bound	
Environment		Water Quality Act Air Quality Act	Clean Water Restoration Act
New Government Agencies		Department of Housing and Urban Development National Endowments for the Arts and Humanities	Department of Transportation
Miscellaneous		Medicare and Medicaid Immigration and Nationality Act	

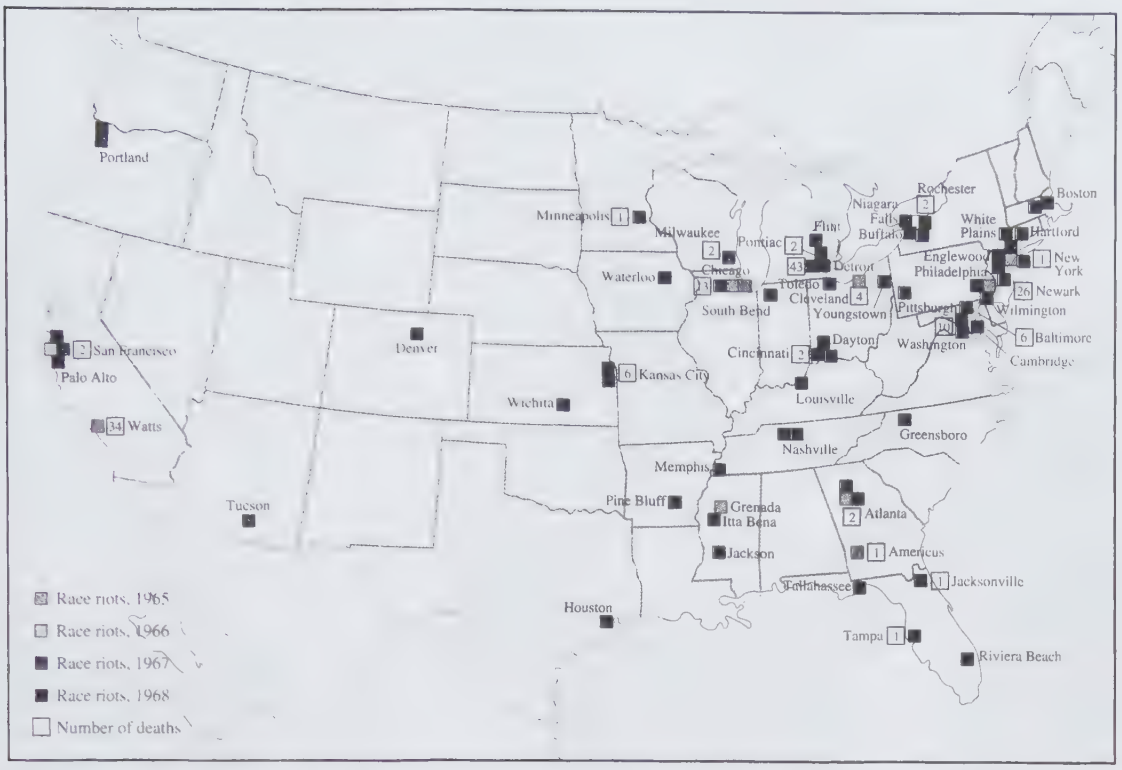
The Great Society of the mid-1960s saw the biggest burst of reform legislation since the New Deal of the 1930s.

Explosion of Black Anger

and Rochester in New York, and in several cities in New Jersey, brutal actions by white police officers, including vicious, unprovoked beatings in police stations, sparked riots in black neighborhoods. African Americans deeply resented the unnecessary force that police sometimes used. As the black writer James Baldwin put it, the white officers patrolling black neighborhoods represented "the force of the white world."

Whites wondered why African Americans were venting their frustration violently at a time when they were making real progress in the civil rights struggle. The civil rights movement, however, had focused mostly on the South, aiming to abolish Jim Crow and black disfranchisement. In the North, African Americans could vote, but many were living in dire poverty. The median income of northern blacks was little more than half that of northern whites, and their unemployment rate was twice as high. Many African American families, particularly those headed by women, lived in perpetual poverty. The primary assistance program, Aid to Families with Dependent Children (AFDC), failed to meet the needs of the poor. AFDC payments were inadequate to cover a family's rent, utilities, and household expenses, let alone its food.

Northern blacks, surveying the economic and civil rights gains of the 1960s, wondered when they, too, would benefit from the Great Society. Concentrated in the inner cities, they looked around the ghettos in which they lived and knew their circumstances were deteriorating. Their neighborhoods were more segregated than ever; in increasing numbers during the 1960s, whites had responded to the continuing black migration from the South by fleeing to the suburbs. And as inner-city neighborhoods became all black, so did the neighborhood schools. "It doesn't cost anything to move a few feet along a hamburger counter to make room for a Negro," one writer observed. "But the cost—economic, social, psychological—of abolishing forever a Negro ghetto of half a million souls is only now becoming apparent."



Map 30.2 Race Riots, 1965–1968 The first major race riot of the 1960s exploded in the Los Angeles neighborhood of Watts in 1965. The bloodiest riots of 1967 were in Newark, New Jersey, and Detroit. Scores of riots erupted in the aftermath of Martin Luther King, Jr.'s assassination in 1968.

Race Riots

If 1964 was fiery and violent, 1965 was even more so. In August an altercation between blacks and police sparked rioting in the Watts section of Los Angeles; thirty-four people were killed (see Map 30.2). White mobs did not initiate the violence (as they had done in Chicago in 1919 and Detroit in 1943); instead, blacks exploded in anger over their joblessness and lack of opportunity, as well as police brutality. They looted white-owned stores, set fires, and threw rocks at police and firefighters. The police retaliated, and twenty-eight blacks died in the Watts riot.

Other cities exploded in riots between 1966 and 1968. In July 1967 twenty-six people were killed in street battles between blacks and police and army troops in Newark, New Jersey. A week later a race riot in Detroit led to the deaths of forty-three people. In 1968 the National Advisory Commission on Civil Disorders, chaired by Governor Otto Kerner of Illinois, released a report blaming white racism for the riots: "The nation is rapidly moving toward two increasingly separate Americas . . . a white society principally located in suburbs . . . and a Negro society largely concentrated within large central cities."

Clearly, many blacks, especially in the North, were beginning to question whether the nonviolent civil rights movement was serving their needs. In 1963 Martin Luther King, Jr., had appealed to whites' humanitarian instincts in his "I Have a Dream" speech. Now another voice was beginning to be heard, one that urged blacks to seize their freedom "by any means necessary." It was the voice of Malcolm X, a one-time pimp and street hustler who had converted while in prison to the Nation of Islam faith, whose followers were commonly known as the Black Muslims.

A small sect that espoused black pride and separatism from white society, the Black Muslims condemned the "white devil" as the chief source of evil in the world, and they exhorted blacks to lead sober lives

During award ceremonies at the 1968 Olympic Games in Mexico City, American sprinters Tommie Smith *(center)* and John Carlos *(right)* extend gloved hands skyward to protest racial inequality and express Black Power. In retaliation, Olympic officials suspended Smith and Carlos, but other African American athletes emulated them by repeating the clenched-fist salute on the victory stand. (Wide World Photos, Inc.)

Malcolm X

and practice thrift. By the early 1960s Malcolm X had become the Black Muslims' chief spokesperson, and his advice was straightforward: "If someone puts a hand on you, send him to the cemetery." But Malcolm X was murdered in early 1965. His assassins were Black Muslims who believed he had betrayed their cause because he said he had met whites who were not devils and had expressed cautious support for the nonviolent civil rights movement. Still, for both blacks and whites, Malcolm X symbolized black defiance and self-respect. A compelling figure in life, in death he would become a hero to increasing numbers of black nationalists and proponents of Black Power.

A year after Malcolm X's death, Stokely Carmichael, chairman of SNCC, denounced "the betrayal of black dreams by white America" and called on African Americans to assert "Black Power." To be truly free from white oppression, Carmichael proclaimed, blacks had to elect black candidates, organize their own schools, and control their own institutions. Several influential organizations that previously had been committed to racial integration and nonviolence embraced Black Power. SNCC in 1966 and CORE in 1967 expelled their white members and repudiated integration, arguing that black people needed power, not white friendship.

Black Power

To many white Americans, one of the most fearsome of the new groups was the Black Panther Party. Blending black nationalism and revolutionary communism, the Panthers dedicated themselves to destroying both capitalism and "the military arm of our oppressors," the police in the ghettos. The Panthers defied authority and carried rifles, but they also instituted free breakfast and healthcare programs for ghetto children, taught courses in African American history, and demanded jobs and decent housing for the poor. What

particularly worried white parents was that some of their own children agreed with the Panthers. Called the New Left, this vocal subset of the baby-boom generation set out to "change the system."

The New Left and the Counterculture

"I'm tired of reading history," Mario Savio, a graduate student at the University of California, complained in a letter to a friend in 1964. "I want to make it." Within a few months Savio realized his ambition as a leader of the campus Free Speech movement. After teaching in SNCC's Mississippi Freedom Summer Project, Savio and others returned to Berkeley convinced that the power structure that dominated blacks' lives also controlled the bureaucratic machinery of the university.

In fact, the University of California was a model university in 1964, with a worldwide reputation for excellence and public service. Its chancellor, the economist Clark Kerr, had written approvingly that higher education had become "a component part of the 'military-industrial complex,'" and he likened the "multiversity" with its many separate colleges and research institutes to a big business. But its strength was also its weakness. The largest single campus in the country, with tens of thousands of students, Berkeley had become hopelessly impersonal by the 1960s. Some students complained that they felt like cogs in a machine.

Free Speech Movement

The struggle at Berkeley began when the university administration yielded to pressure from political conservatives and banned recruitment by civil rights and antiwar organizations in Sproul Plaza, the students' traditional gathering place. Savio denounced the ban, saying that the time had come for students to "put [their] bodies against the gears . . . and make the machine stop until we are free." Militant students defied Kerr's ban; the administration suspended them or had them arrested. In December the Free Speech movement seized and occupied the main administration building. Governor Pat Brown dispatched state police to Berkeley, and more than eight hundred people were arrested. Angry students shut down classes for several days in protest.

The willingness of those in positions of authority to mobilize the police against unruly but not violent students was shocking and radicalizing to many young people. Having grown up comfortable and even indulged, they soon found themselves treated like criminals for questioning authority. By the end of the decade, the activism born at Berkeley would spread to hundreds of other campuses as students actively opposed what they considered a criminal war in Vietnam and racial injustice in their own country.

Students for a Democratic Society and the New Left

Two years earlier, another group of students had founded Students for a Democratic Society (SDS). Like their leaders Tom Hayden and Al Haber, most SDS members were white, middle-class college students. In 1962, meeting in Port Huron, Michigan, the SDS adopted a statement of principles. "We are people of this generation," the Port Huron Statement asserted, "bred in at least modest comfort, housed now in the universities, looking uncomfortably to the world we inherit." The statement condemned racism, poverty in the midst of plenty, and the Cold War. SDS sought nothing less than the revitalization of democracy by wresting power from the corporations, the military, and the politicians and returning it to the people.

Inspired by the Free Speech Movement and SDS, a minority of students identified themselves as members of the "New Left." The New Left was united in its hatred of racism and the Vietnam War, but it divided along philosophical and political lines. Some radicals were Marxists, others black nationalists, anarchists, or pacifists. Some believed in pursuing social change through negotiation; others were revolutionaries who regarded compromise as impossible.

Countercultural Revolution

As the slogan "Make Love, Not War" suggests, the New Left and the counterculture discovered a common cause as the war in Vietnam escalated. Drugs and sexuality also were central to the "hippie" experience. Exhorted by Timothy Leary—a former Harvard instructor and advocate of expanded consciousness through use of LSD and other mind-altering drugs—to "turn on, tune in, drop out," millions of students experimented with marijuana and hallucinogenic drugs. Young people's drug experiences and experiments with communal living persuaded them that they lived in a new era unconnected to the past. In fact, in a list of twenty-one academic subjects, students in the sixties ranked history "the most irrelevant."

Inspired by Ken Kesey and his Merry Pranksters, who traveled in a 1939 International Harvester school bus, hippies seemed drawn to buses. This bus, named "The Road Hog," carries members of the New Buffalo Commune in the 1968 Fourth of July parade in El Rito, Mexico. (Lisa Law/Image Works)

Music more than anything else expressed the countercultural assault on the status quo. Bob Dylan promised revolutionary answers "blowin' in the wind," and young people cheered Janis Joplin, who brought African American blues to white Americans. Like sex and drugs, the music of the 1960s represented a quest to redefine reality and create a more just and joyful society. Rock festivals became cultural watersheds. In 1969 at Woodstock in upstate New York, more than four hundred thousand people ignored or reveled in rain and mud for days, without shelter and without violence. A number of them began to dream of a peaceful "Woodstock nation" based on love, drugs, and rock music.

Rock 'n' Roll

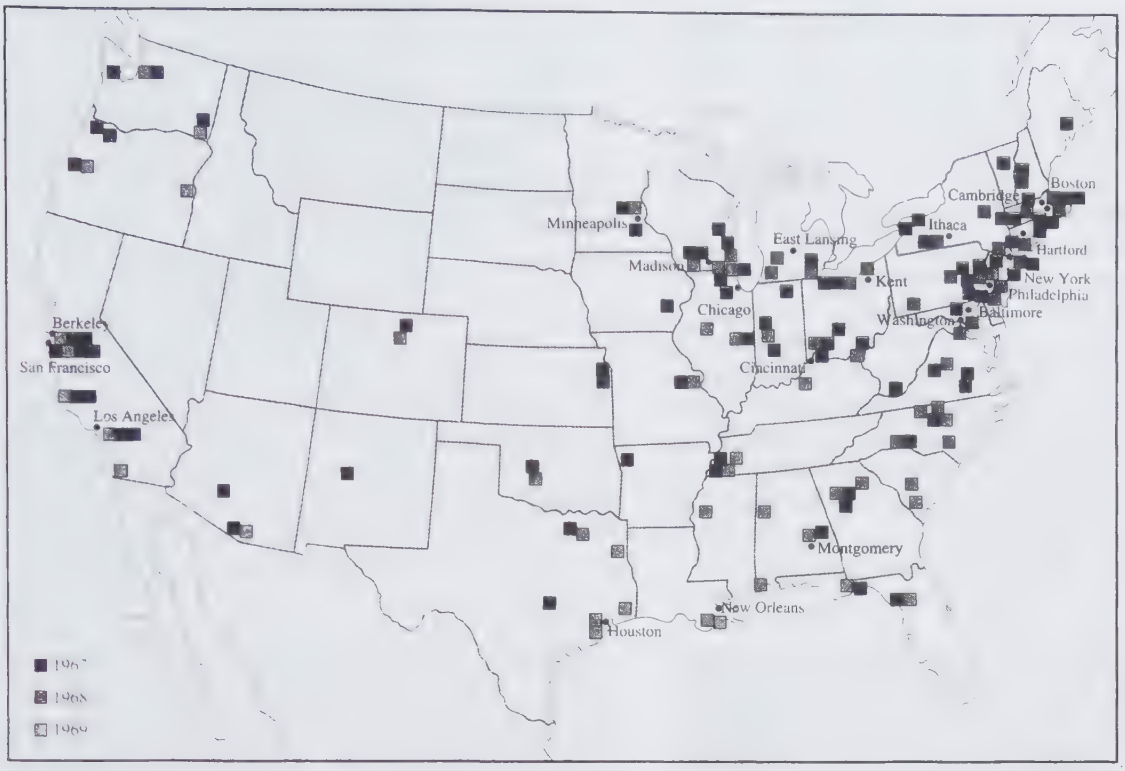
Some young people tried to construct alternative ways of life. In the Haight-Ashbury section of San Francisco, "flower children" created an urban subculture as distinctive as that of any Chinatown or Little Italy. "Hashbury" inspired numerous other communal living experiments. The counterculture represented only a small proportion of American youth, but to middle-class parents, hippies seemed to be everywhere.

The so-called generation gap was yawning wide, but most disturbing to parents were the casual sexual mores that young people were adopting. In 1960 the government approved the birth-control pill, and use of the pill accelerated among young people. For many young people, living together no longer equaled living in sin; and as attitudes toward premarital sex changed, so did notions about homosexuality and sex roles.

Sexuality

The militancy of the 1960s helped inspire the gay rights movement. Homosexuals had long feared that disclosing their sexual orientation would mean losing not only their jobs but even their friends and families. That attitude began to change in June 1969. In New York's Greenwich

Gay Rights Movement



Map 30.3 Disturbances on College and University Campuses, 1967–1969 Students on campuses from coast to coast protested against the Vietnam War. Some protests were peaceful; others erupted into violent confrontations between protesters and police and army troops.

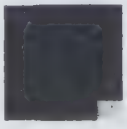
Village, a riot erupted when police raided the Stonewall Inn, a gay bar on Christopher Street, and were greeted with a volley of beer bottles hurled by patrons tired of police harassment. Rioting continued into the night, and graffiti calling for "Gay Power" appeared along Christopher Street. The Stonewall riot, as historian John D'Emilio has written, "marked a critical divide in the politics and consciousness of homosexuals and lesbians. A small, thinly spread reform effort suddenly grew into a large, grass-roots movement for liberation . . . as a furtive subculture moved aggressively into the open."

Antiwar Protests

During Lyndon Johnson's presidency, antiwar marches and demonstrations became a widespread protest tactic (see Map 30.3), and students on campuses across the country held teach-ins—open forums for discussion of the war by students, professors, and guest speakers. Some young men fled the draft by moving abroad—mostly to Canada and Scandinavia—while others protested, violently and nonviolently, at local draft board offices. The Johnson administration charged that such acts threatened the nation's war-making powers.

By this time, however, growing numbers of Americans, young and old, had quit believing their elected leaders. In 1965, having ordered combat troops to Vietnam, President Johnson claimed the United States was fighting for honorable reasons. But people wondered what goal could justify the murder of Vietnamese women and children. As troop levels increased, many recalled ruefully that in 1964 they had voted for Johnson as the "peace candidate." By 1968 almost a half-million American soldiers were stationed in Vietnam, and Johnson's credibility had evaporated.

1968: A Year of Protest, Violence, and Loss



As stormy and violent as the years from 1963 through 1967 had been, many Americans still tried to downplay the nation's distress in the hope that it would go away. But in 1968 a series of shocks hit them harder

than ever. The first jolt came in January 1968, when the U.S.S. *Pueblo*, a navy intelligence ship, was captured by North Korea. A week later came the Tet Offensive in Vietnam (see page 898). American casualties were climbing, and for the first time many Americans believed that they might lose the war.

Controversy over the war deepened within the Democratic Party, and two candidates rose to challenge Johnson for the 1968 presidential nomination. Senator Eugene McCarthy of Minnesota entered the New Hampshire primary on March 12 solely to contest the Vietnam War; when he won twenty of New Hampshire's twenty-four convention delegates, Johnson recognized that these voters had repudiated his war policies. Soon another Democrat, Senator Robert F. Kennedy of New York, brother of the late president, entered the race. Then, on March 31, President Johnson went on national television to announce a scaling-down of the bombing in North Vietnam and his decision not to run for reelection.

To preserve law and order against protesters during the 1968 Democratic National Convention, Chicago Mayor Richard J. Daley *(center)* mobilized twelve thousand police officers. But in what a federal commission called a "police riot," the officers overreacted and used tear gas and clubs to stop protesters from marching to the convention hall. (Collection of Philip J. and Suzanne Schiller)

Assassination of Martin Luther King, Jr.

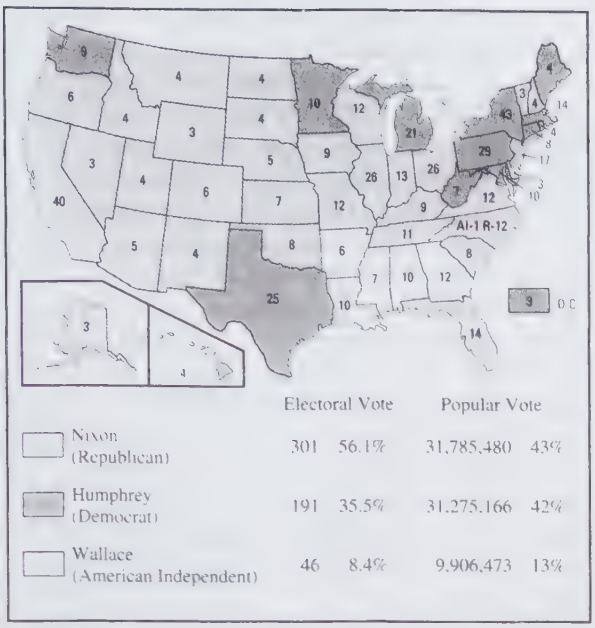
Less than a week later, Martin Luther King, Jr., was murdered in Memphis. It is still unclear whether James Earl Ray, a white man convicted in the killing, was a deranged racist acting alone or a hireling in an organized conspiracy. As an outspoken critic of the Vietnam War and increasingly of American capitalism, King had many enemies. Whatever Ray's motive, the murder touched off massive grief and rage in the nation's ghettos. Riots erupted in 168 cities and towns, including the looting and burning of white businesses (see Map 30.2). Thirty-four blacks and five whites died in the violence. The terror provoked a white backlash. Tough talk was the response from Chicago mayor Richard Daley, who ordered police to shoot to kill arsonists.

Gallup polls in April and May reported Robert Kennedy to be the front-running Democratic presidential candidate, and in June he won the California primary. After addressing his joyous supporters in a Los Angeles hotel, Kennedy took a shortcut through the kitchen to a press conference. A young man stepped forward with a .22-caliber revolver and fired. Sirhan Sirhan, the assassin, was an Arab nationalist who despised Kennedy for his unwavering support of Israel. Many antiwar liberals felt they had lost a friend in Robert Kennedy, who in the wake of his brother's assassination had developed deep empathy with the sufferings of the underprivileged and strong opposition to the Vietnam War.

Assassination of Robert Kennedy

Violence erupted again in August at the Democratic national convention in Chicago. The Democrats were divided over the war, and thousands of antiwar protesters and members of the zany and anarchic Youth International Party (Yippies) had traveled to Chicago. The Chicago police force was still in the psychological grip of Mayor Daley's shoot-to-kill directive. Twelve thousand police were assigned to twelve-hour shifts, and another twelve thousand army troops were on call with rifles, bazookas, and flamethrowers. They attacked in front of the Hilton Hotel, wading into the ranks of demonstrators, reporters, and TV camera operators. Throughout the nation, viewers watched as club-swinging police beat protesters to the ground.

Violence at the Democratic Convention


Electoral Vote
Popular Vote
Nixon (Republican) 301 56.1% 31,785,480 43%
Humphrey (Democrat) 191 35.5% 31,275,166 42%
Wallace (American Independent) 46 8.4% 9,906,473 13%

Map 30.4 Presidential Election, 1968 The popular vote was almost evenly split between Richard M. Nixon and Hubert Humphrey, but Nixon won 31 states to Humphrey's 14 and triumphed easily in electoral votes. George Wallace, the American Independent Party candidate, won 5 states in the Deep South.

The Democratic convention nominated Vice President Hubert Humphrey for president and Senator Edmund Muskie of Maine for vice president. Like Johnson and Kennedy before him, Humphrey was both an unstinting supporter of the Vietnam War and a political liberal supported throughout his career by big-city bosses, African Americans, and union members. The Republicans selected as their presidential nominee Richard M. Nixon; his running mate was the tough-talking Governor Spiro Agnew of Maryland. Another tough-talking governor, George C. Wallace of Alabama, ran as the nominee of the American Independent Party. Wallace was a segregationist, a proponent of reducing North Vietnam to rubble with nuclear weapons, and an advocate of "law and order."

When the votes were tabulated, Nixon emerged the winner by the slimmest of margins. Wallace collected nearly 10 million votes, or almost 14 percent of the total, the best performance by a third party since 1924. His strong showing made Nixon a minority president, elected with 43 percent of the popular vote (see Map 30.4). Moreover, the Democrats maintained control of the House (245 to 189) and the Senate (57 to 43).

Election of 1968

Still, given that the combined vote for Nixon and Wallace was 57 percent, the 1968 election was a triumph for conservatism. The war had hurt the Democrats' appeal, but even more politically damaging was the party's identification with the cause of civil rights and welfare for the poor. In 1968 Humphrey received 97 percent of the black vote but only 35 percent of the white vote. Among the defectors from the New Deal coalition were not only southern whites but also northern blue-collar ethnic voters. "In city after city," one observer noted, "racial conflicts had destroyed the old alliance. The New Deal had unraveled block by block."

Unraveling of the New Deal Coalition

Rebirth of Feminism

Another liberation movement gained momentum during the turbulence of the 1960s, at first quietly and then on the picket line. The women's rights movement had languished after the adoption of the Nineteenth Amendment in 1920. But in the 1960s feminism was reborn. Many women were dissatisfied with their lives, and in 1963 they found a voice with the publication of Betty Friedan's *The Feminine Mystique*. According to Friedan, women across the country were deeply troubled by "the problem that has no name." Most women had grown up believing that "all they had to do was devote their lives from earliest girlhood to finding a husband and bearing children." The problem was that this "mystique of feminine fulfillment" left many wives and mothers feeling empty and incomplete.

President Kennedy appointed only one woman to a policymaking post in his administration, but she proved to be an effective advocate of women's rights. Esther Peterson served as assistant secretary of labor and director of the Women's Bureau. In 1961, at her urging, Kennedy established the first President's Commission on the Status of Women. Its report, *American Women* (1963), urged that every obstacle to women's full participation in society be removed. But little federal action resulted from the release of *American Women*, and the government was failing to enforce the gender-equality provisions of the Civil Rights Act of

National Organization for Women

1964. The need for action inspired the founding in 1966 of the National Organization for Women (NOW). In the reform tradition, NOW battled for "equal rights in partnership with men" by lobbying for legislation and testing laws in the courts.

Not long after NOW's formation, a new generation of radical feminists emerged. Most radical feminists were white and well educated; many were the daughters of working mothers. Most had been raised in the era of sexual liberation, taking for granted liberation from unwanted pregnancy. The intellectual ferment of their movement produced a new feminist literature. Radical feminists focused not only on legal barriers but also on cultural assumptions and traditions. In the process they introduced the term *sexism* to signify a phenomenon far more pervasive and demeaning than lack of legal equality, and they challenged everything from women's economic and political inequality to sexual double standards and sex-role stereotypes.

Radical feminists practiced what they called "personal politics." Charlotte Bunch, a feminist, explained, "There is no private domain of a person's life that is not political, and there is no political issue that is not ultimately personal." Unlike NOW, the radical feminists practiced direct action, such as picketing the 1968 Miss America contest in Atlantic City. One woman auctioned off an effigy of Miss America: "Gentlemen, I offer you the 1969 model. . . . She walks. She talks. She smiles on cue. *And* she does the housework." Into the "freedom trash can" the pickets dumped false eyelashes, hair curlers, girdles, and *Playboy* magazine to protest the prevailing view of women as domestic servants and sex objects.

"Personal Politics"

Many radical feminists were veterans of the struggles for black civil rights and against the Vietnam War. Even in movements dedicated to equality and peace, however, they often found that they were second-class citizens. Instead of making policy, they were expected to make coffee, take minutes, and even provide sexual favors. Many of these feminists organized consciousness-raising groups to discuss wide-ranging and sensitive matters such as homosexuality, abortion, and power relationships in romance and marriage. The issue of homosexuality caused a split in the women's movement. In 1969 and 1970 NOW forced lesbians to resign from membership and offices in the organization. The rift was healed in 1971, largely because lesbians as well as gay men had begun to fight back.

For working women in the 1960s, the most pressing problems were sex discrimination in employment, meager professional opportunities, low pay, lack of adequate daycare for children, and prohibitions against abortion. Although the Equal Pay Act of 1963 required equal pay for equal work in industries producing goods for commerce, such equality has been slow in coming. In 1963 the average woman earned 63 cents for every dollar a man earned. Ten years later the figure had fallen to 57 cents. The main cause of this pay disparity was "occupational segregation": throughout the labor force, women were concentrated in the low-paying positions. Because many women with college educations earned less than men with eighth-grade educations, it was natural that two of the most important women's goals of the 1960s were equal job opportunity and equal pay for equal work.

Working Women's Burdens

Another goal of working women was child daycare. In 1971 a bill passed Congress that would have set up a national system of daycare facilities for the children of working parents, but President Nixon vetoed it. The bill, Nixon asserted, would have committed government to "communal approaches to child-rearing over against the family-centered approach," thus imperiling the American family. In fact, there was a growing need for childcare: 11 million additional women joined the labor force between 1960 and 1972, and many were mothers of young children.

Despite opposition and setbacks, women were making impressive gains. They entered professional schools in record numbers: from 1969 to 1973, the number of women law students almost quadrupled, and the number of women medical students more than doubled. Under Title IX of the Educational Amendments of 1972, female college athletes gained the right to the same financial support as male athletes. The same year, Congress approved the Equal Rights Amendment (ERA)—"Equality of rights under the law shall not be denied or abridged by the United States or by any State on account of sex"—and sent it to the states for ratification. It fell three states shy of the three-fourths majority needed for adoption.

Women's Educational and Professional Gains

The Supreme Court also ruled on several issues particularly pertinent to women. In 1973, following the lead of some states, the Court struck down laws that made abortion a crime. Justice Harry A. Blackmun

Roe v. Wade

wrote the majority (7–2) opinion in *(Roe v. Wade):* The constitutional "right of privacy . . . is broad enough to encompass a woman's decision whether or not to terminate her pregnancy." Only in the last three months of pregnancy could a state bar abortion. The Court at this time also addressed sex discrimination. In a 1971 ruling *(Reed v. Reed)*, it held that legislation differentiating between the sexes "must be reasonable, not arbitrary," and in 1973 *(Frontiero v. Richardson)* the justices went a step further in declaring that job-related classifications based on sex, like those based on race, were "inherently suspect." These victories gave women new confidence in the 1970s.

Nixon and the Divided Nation

Richard Nixon's presidency was born in chaos. Bloody confrontations occurred at Berkeley, Wisconsin, Cornell, Harvard, and scores of other colleges and universities in 1969. In October three hundred Weathermen (a splinter group of SDS) raced through Chicago's downtown district, smashing windows and attacking police officers in a deluded attempt to incite armed class struggle. Violence was absent a month later, however, when a half-million people assembled peacefully at the Washington Monument on Moratorium Day to call for an end to the Vietnam War.

If 1969 was bloody and turbulent, 1970 proved to be even more so. President Nixon appeared on television on April 30 to announce that the United States had launched an "incursion" into Cambodia (see page 899), a neutral country bordering Vietnam. Antiwar protest escalated. On May 4 national guardsmen in Ohio fired into a crowd of fleeing students at Kent State University, killing four young people. Ten days later, police and state highway patrolmen armed with automatic weapons blasted a women's dormitory at Jackson State, an all-black university in Mississippi, killing two students and wounding nine others. The police claimed they had been shot at, but no evidence of sniping could be found.

Kent State and Jackson State

Calling their movement "Red Power," these American Indian activists dance in 1969 while "reclaiming" Alcatraz Island in San Francisco Bay. Arguing that an 1868 Sioux treaty entitled them to possession of unused federal lands, the group occupied the island until mid-1971. (Ralph Crane, LIFE Magazine © Time, Inc.)

Fear of Crime

Many Americans, though disturbed by the increasing ferocity of campus confrontations, felt more personally endangered by street crime than student unrest. Sales of pistols, burglar alarms, and bullet-proof vests soared, as did demand for private guards and special police. Conservatives accused liberals and the Supreme Court of causing the crime wave by coddling criminals.

Responding to public calls for crackdowns, government officials sometimes overreacted. Governor Nelson Rockefeller of New York did so in September 1971 when more than a thousand inmates of the state prison at Attica seized thirty-eight guards and took over a cellblock. Rather than agree to come to Attica to negotiate, Rockefeller ordered state troopers, sheriff's deputies, and guards to storm the prison. Under a pall of tear gas Rockefeller's army regained control, but at a horrifying cost: twenty-nine inmates and ten hostages were dead.

Politics of Divisiveness

This new wave of riots, protests, and violent crime convinced Nixon that the nation was plunging into anarchy. Worried like Lyndon Johnson before him that the antiwar movement was communist inspired, he ordered the FBI, the CIA, the National Security Agency, and the Defense Intelligence Agency in mid-1970 to formulate a coordinated attack on "internal threats." Meanwhile, the administration also worked to put the Democratic Party on the defensive. The theme for the upcoming elections was enunciated in a memorandum by Jeb Stuart Magruder, a White House assistant: "The Democrats should be portrayed as being on the fringes: radical liberals who . . . excuse disorder, tolerate crime . . . and undercut the President's foreign policy." But Republican attempts in 1970 to discredit the Democrats failed. The Democrats gained seats in the House, and the Republicans lost eleven state governorships.

Stagflation

Nixon's fortunes declined further in 1971. In June the *New York Times* began to publish the *Pentagon Papers*, a top-secret Defense Department study that revealed that the government had repeatedly lied to the American people about the Vietnam War (see page 899). Nixon also had to contend with inflation, a problem not entirely of his making. Lyndon Johnson's policy of "guns and butter"—massive deficit financing to support both the Vietnam War and the Great Society—had fueled inflation. By early 1971 the United States was suffering from a 5.3 percent inflation rate and a 6 percent unemployment rate. The word *stagflation* soon would be coined to describe this coexistence of economic recession (stagnation) and inflation.

Nixon shocked both critics and allies by declaring in early 1971 that "I am now a Keynesian." (According to the British economist John Maynard Keynes, governments could stimulate economic growth in the private sector by means of "pump priming," even if it necessitated deficit financing.) Nixon's budget for fiscal 1971 would have a built-in deficit of $23 billion, just slightly less than the all-time high of $25 billion (1968 to 1969). Then in August, in an effort to correct the nation's balance-of-payments deficit, Nixon announced that he would devalue the dollar and allow it to "float" in international money markets. Finally, to curb inflation, the president froze prices, wages, and rents for ninety days. Wage and price controls exemplified what surprised observers called Nixon's "great turnabout" from outspoken conservative to pragmatic liberal.

One of Nixon's chief legislative aims was revenue sharing, a program that distributed federal funds to the states to use as they saw fit. In 1972 the president signed a revenue-sharing bill. Invoking the federalism of the nation's founders, he called this effort to shift responsibility back to state and local governments the New Federalism. The historian Stephen E. Ambrose has written that the program had special appeal to "the surburban, small-town, and rural homeowning Silent Majority," who expressed disgust that they had to pay "high taxes to support giveaway programs for the poor." They wanted to control their own tax dollars.

Environmental Issues

The environmental movement, which gained momentum in the 1960s, bore fruit during Nixon's first term. Alerted in 1962 to ecological hazards by Rachel Carson's *Silent Spring* (see page 810), growing numbers of Americans began to heed warnings of impending disaster due to rapid population growth and rampant development. Gradually, Congress responded, establishing the National Wilderness Preservation System (1964) and giving the federal government the power to set water-quality standards (1967).

Environmental tragedies such as a 1969 oil spill that fouled the beaches and killed wildlife in Santa Barbara, California, spurred citizen action. The En-

In 1969 a petroleum rig off the coast of Santa Barbara, California, ruptured, spilling millions of gallons of toxic oil. Fisheries were destroyed, and seabirds, seals, and other wildlife coated with viscous oil struggled to stay alive. The tragedy motivated environmental activists, who lobbied for laws that would protect nature. And in 1970, Americans concerned about pollution of the environment celebrated the first Earth Day. (J. Eyerman/Black Star)

vironmental Defense Fund (founded in 1967) successfully fought the use of DDT, and Greenpeace (founded in 1969) protested radioactive poisoning from nuclear-bomb testing. In 1970 Americans celebrated the first Earth Day, convinced that the planet's fate hung in the balance. Barry Commoner's *The Closing Circle* (1971) put the issue squarely: "The environment got here first, and it's up to the economic system to adjust to the environment. Any economic system must be compatible with the environment, or it will not survive."

In the 1970s states took action; Oregon, for example, passed the first bottle-recycling act in 1972. And although President Nixon was personally unsympathetic to the environmental movement, some of his subordinates were not. Nixon acknowledged the movement's political appeal by reluctantly agreeing to the establishment of the Environmental Protection Agency in 1970 and by signing into law the Clean Air Act (1970), Clean Water Act (1972), and Pesticide Control Act (1972).

Nixon's Reelection and Resignation

Political observers believed that President Nixon would have a hard time running for reelection on his contrary first-term record. Having urged Americans to "lower our voices," he had ordered Vice President Agnew to denounce the press and student protesters. Having espoused unity, he had practiced the politics of polarization. Having campaigned as a fiscal conservative, he had authorized near-record budget deficits. And having promised peace, he had widened the war in Southeast Asia.

During Nixon's first term, the Democrats dominated both houses of Congress, and they continued to pursue a liberal agenda. Indeed, Congress's accomplishments were more despite Nixon than because of him. Congress increased Social Security payments and food-stamp funding and established the Occupational Safety and Health Administration to reduce hazards in the workplace. Moreover, in 1971 the states quickly ratified the Twenty-sixth Amendment, which extended the vote to eighteen-year-olds.

Liberal Legislative Victories

In his 1968 presidential campaign, Nixon had echoed George Wallace's appeal for the law and order vote. In his campaign for reelection, Nixon continued to employ a "southern strategy" of political conservatism. A product of the Sunbelt, he was acutely aware of the growing political power of that conservative region. He thus appealed to the Silent Majority. And as in the 1970 congressional elections, Nixon equated the Republican Party with law and order and the Democrats with permissiveness, crime, drugs, pornography, the hippie lifestyle, student radicalism, black militancy, feminism, homosexuality, and dissolution of the family.

Nixon's "Southern Strategy"

In some ways, Nixon had been pursuing a southern strategy all along. A furor had arisen in 1970 when the press published a memorandum by Daniel Moynihan, Nixon's adviser on urban affairs and social welfare, who had recommended that "the issue of race could benefit from a period of benign neglect." Incensed, blacks and white liberals responded that this was another example of how uncaring the Nixon administration was. Moreover, Attorney General John Mitchell had courted southern white voters by trying to delay school desegregation in Mississippi and to prevent extension of the 1965 Voting Rights Act.

The southern strategy also guided Nixon's nomination of Supreme Court justices. After appointing Warren Burger, a conservative federal judge, to succeed Earl Warren as chief justice, Nixon had selected two southerners to serve as associate justices, one of whom was a segregationist. When the Senate declined to confirm either nominee, Nixon protested angrily, "I understand the bitter feelings of millions of Americans who live in the South." By 1972, however, the president had managed to appoint three more conservatives to the Supreme Court. Ironically, the new appointees did not always vote as Nixon would have wished: the Court's decisions on abortion, publication of the *Pentagon Papers*, the death sentence, wiretapping, and busing for school desegregation all ran counter to Nixon's views.

Nixon and the Supreme Court

The Court was at the center of one of the most emotional issues of the 1972 election: busing of schoolchildren for purposes of integration. In *Swann v. Charlotte-Mecklenberg* (1971), the justices had upheld a desegregation plan that required a school system in North Carolina to work toward racial integration through massive cross-town busing. The decision generated widespread protest. The next year Governor George Wallace of Alabama won the Democratic primary in Florida after taking a strong antibusing stand. Three days later Nixon proposed that Congress pass a busing moratorium, and he appeared on television to denounce busing as a reckless and extreme remedy for segregation. Nixon's opposition to busing was a well-planned aspect of his southern strategy, but it clearly appealed to many northern whites as well.

Besides Governor Wallace, the Democratic candidates for the 1972 presidential nomination were Senators Hubert Humphrey, George McGovern, Edmund Muskie, and Edward Kennedy, the younger brother of John and Robert Kennedy. Wallace fell victim to an assassination attempt: he was shot and paralyzed by a disturbed young man in Maryland and began a long convalescence. After his shooting, the right-wing law-and-order vote had no place to turn but to Nixon. Kennedy had ceased to be a serious contender in 1969; in that year, he left the scene of an accident in which a woman passenger in his car drowned, at Chappaquiddick, an island off the Massachusetts coast near Martha's Vineyard. The other Democratic candidates inspired little enthusiasm. Senator McGovern of South Dakota, who enjoyed the support of many followers of the late Robert F. Kennedy, won several primaries and arrived at the Democratic convention with enough votes to secure the nomination of his party.

Election of 1972

Nixon campaigned by assuming the elevated role of world statesman: in early 1972 he traveled to China and to the Soviet Union. Both trips were elaborately staged and televised for maximum political effect. But it was the inept campaign waged by George McGovern that handed victory to the Republicans. When

McGovern endorsed a $30 billion cut in the defense budget, people began to fear that he was a neo-isolationist who would reduce the United States to a second-rate power. McGovern's proposals split the Democrats between his supporters—antiwar activists, African Americans, feminists, young militants—and old-guard urban bosses, labor leaders, white southerners, and growing numbers of blue-collar workers.

Nixon benefited greatly from the rumor planted by his aides that the Vietnam War was near its end. Troops were being pulled out; by September 1972 the American death rate was almost zero. Then in late October, less than two weeks before the election, Henry Kissinger (then assistant to the president for national security affairs) announced a breakthrough in the peace negotiations. "Peace is at hand," he proclaimed. The announcement proved inaccurate but helped persuade some people to vote for Nixon.

Nixon's victory in November was overwhelming: he polled 47 million votes, more than 60 percent. McGovern received only 29 million and won just one state, Massachusetts, and the District of Columbia. Nixon's southern strategy had been supremely successful. He carried the entire Deep South, which once had been solidly Democratic. He also gained the suburbs and won over a majority of the urban vote, including long-time Democrats such as blue-collar workers, Catholics, and white ethnics. Only blacks, Jews, and low-income voters stuck by the Democratic candidate.

Nixon's Landslide Victory

Yet the 1972 election had another significant result, one that would recur in subsequent elections. Despite Nixon's landslide victory, his coattails proved to be short, and the Democrats retained control of both houses of Congress. Democratic voters were becoming independent, resorting to ticket-splitting to reject an unacceptable Democratic presidential candidate but support the party's congressional candidates.

Little noticed during the campaign was a break-in at the Watergate apartment-office complex in Washington, D.C., on June 17, 1972. A watchman telephoned the police to report an illegal late-night entry into the building through an underground garage. At 2:30 A.M., police arrested five men who were attaching listening devices to telephones in the sixth-floor offices of the Democratic National Committee. The men had cameras and had been rifling through files.

Watergate Break-in

One of those arrested was James W. McCord, a former CIA employee who had become security coordinator of the Committee to Re-Elect the President (CREEP). The other four were anti-Castro Cubans from Miami who had worked with the CIA before. Unknown to the police, two other men had been in the Watergate building at the time of the break-in. One was E. Howard Hunt, a one-time CIA agent who had become a White House consultant. The other was G. Gordon Liddy, a former FBI agent serving on CREEP's staff.

The Watergate fiasco actually began in 1971, when the White House established not only CREEP but the Special Investigations Unit, known familiarly as the "Plumbers," to stop the leaking of secret government documents to the press. After publication of the *Pentagon Papers*, the Plumbers burglarized the office of Daniel Ellsberg's psychiatrist in an attempt to discredit Ellsberg, who had leaked the top-secret report to the press. It was the Plumbers who broke into the Democratic National Committee's headquarters to photograph documents and install wiretaps; money raised by CREEP was used to pay the Plumbers' expenses both before and after the break-ins. CREEP's official duty was to solicit campaign contributions, and the committee managed to collect $60 million, much of it donated illegally by corporations, including big oil companies like Gulf Oil and Phillips Petroleum, as well as defense contractors and airlines.

White House Cover-up

The arrest of the Watergate burglars generated furious activity in the White House. Incriminating documents were shredded; E. Howard Hunt's name was expunged from the White House telephone directory; and President Nixon ordered his chief of staff, H. R. Haldeman, to discourage the FBI's investigation into the burglary on the pretext that it might compromise national security. Nixon also authorized CREEP "hush money" payments in excess of $460,000 to keep Hunt and others from implicating the White House in the crime. And he assured the press that his White House counsel, John W. Dean III, had conducted a "complete investigation" and that no one in the administration "was involved in this very bizarre incident."

Because of successful White House efforts to cover up the scandal, the break-in was almost unnoticed by the electorate. Had it not been for the diligent efforts of reporters, government special prosecutors,

How do historians know...

that President Richard M. Nixon was guilty of obstructing justice in the Watergate affair? What was the evidence—the "smoking gun"—that established his guilt? The so-called smoking gun referred to the tape recording of a White House conversation on June 23, 1972, that proved Nixon had foreknowledge of the Watergate break-in, had instigated a cover-up, and had obstructed justice almost from the outset of the scandal. That day, Nixon ordered his top aide to stop the Federal Bureau of Investigation's inquiry into the Watergate break-in. Tell the Central Intelligence Agency, Nixon thundered, to call the FBI, claim that the break-in was a secret spy operation related to the 1961 Bay of Pigs invasion, and say ". . . that we wish for the country [that you] 'don't go further into this case,' period." In 1973 and 1974 special prosecutors and congressional committees sued for release of this and other tapes, but Nixon resisted. On August 5, 1974, the Supreme Court ruled that executive privilege did not protect the subpoenaed tapes; the next day, the White House turned over a number of tapes, including the smoking gun. Three days later, Richard Nixon resigned the presidency.

Afterward, historians sued for access to the thousands of hours of unreleased tapes; but for twenty-one years, Nixon and his family succeeded in keeping them private. In 1996, however, the Nixon estate, the National Archives and Records Administration, and Stanley I. Kutler, a history professor at the University of Wisconsin, reached an agreement that called for some 3,700 hours of tapes to be made public over the next several years. The first tapes released condemned President Nixon in his own words and shocked the American people. For example, on May 13, 1971, Nixon was recorded growling demands for a commissioner of the Internal Revenue Service, who "is a ruthless son of a bitch, that he will do what he is told, that every income tax return I want to see, I see. That he will go after our enemies and not go after our friends." A month later, Nixon ordered his aides to arrange a break-in at the Brookings Institution, a liberal think tank in Washington: "Goddammit," he swore, "get in and get those files. Blow the safe and get it." In January 2000 some of Watergate tapes became available to the public when the National Archives began to sell cassettes containing the 264 hours of so-called abuse of government power recordings. (Photo: Nixon Presidential Materials Project)

Watergate Hearings and Investigations

federal judges, and members of Congress, President Nixon might have succeeded in disguising his involvement in Watergate. Slowly, however, the tangle of lies and distortions began to unravel. In early 1973 U.S. District Judge John Sirica tried the burglars, one of whom implicated his superiors in CREEP and at the White House. From May until November, the Senate Select Committee on Campaign Practices, chaired by Senator Sam Ervin of North Carolina, heard testimony from White House aides. John W. Dean III acknowledged not only that there had been a cover-up but that the president had directed it. Another aide shocked the committee and the nation by disclosing that Nixon had had a voice-activated taping system installed in his White House office and that conversations about Watergate had been recorded.

Nixon feigned innocence. In April 1973 he tried to distance himself from the cover-up by announcing the resignations of his two chief White House aides, John Ehrlichman and H. R. Haldeman. The administration then appointed Archibald Cox, a Harvard law professor with a reputation for uncompromising integrity, to fill the new position of special Watergate prosecutor. But when Cox sought in October to obtain the White House tapes by means of a court order, Nixon decided to have him fired. Both Attorney General Elliot Richardson and his deputy resigned rather than carry out the dismissal order. It thus fell to the third-ranking person in the Department of Justice, Solicitor General Robert H. Bork, to fire Cox. The public outcry provoked by the so-called Saturday Night Massacre compelled the president to agree to the appointment of a new special prosecutor, Leon Jaworski. When Nixon still refused to surrender the tapes, Jaworski took him to court.

Saturday Night Massacre

In the same month as the Saturday Night Massacre, the Nixon administration was stung by another scandal. Vice President Spiro Agnew resigned after pleading no contest to charges of income-tax evasion and acceptance of bribes when he was governor of Maryland. Under the provisions of the Twenty-fifth Amendment, ratified in 1967 after President Kennedy's assassination, Nixon nominated Gerald R. Ford, the House minority leader from Michigan, to replace Agnew. Ford's voting record was conservative—he had opposed most of the 1960s reform legislation—but he was popular on Capitol Hill, and his nomination was promptly confirmed by Congress.

Agnew's Resignation

Throughout 1973 and 1974, enterprising reporters uncovered more details of the break-in, the hush money, and the various people from Nixon on down who had taken part in the cover-up. White House aides and CREEP subordinates began to go on trial, and Nixon was cited as an "unindicted co-conspirator." *Washington Post* reporters Carl Bernstein and Bob Woodward found an informant, known as Deep Throat, who provided damning information about Nixon and his aides. As Nixon's protestations of innocence became less credible, his hold on the tapes became more tenuous. In late April 1974 the president finally released an edited transcript of the recorded conversations.

The edited transcript, however, had a lot of gaps. It swayed neither the public nor the House Judiciary Committee, which had begun to draft articles of impeachment against the president. Nixon still was trying to hang onto the original tapes when the Supreme Court in July, in *U.S. v. Nixon*, unanimously ordered him to surrender the recordings to Judge Sirica. At about the same time, the Judiciary Committee conducted nationally televised hearings. After several days of testimony, the committee voted for impeachment on three of five counts: obstruction of justice through the payment of hush money to witnesses, lying, and withholding evidence; defiance of a congressional subpoena of the tapes; and use of the CIA, the FBI, and the Internal Revenue Service to deprive Americans of their constitutional rights of privacy and free speech.

On August 6 the president finally handed over the complete tapes, which he knew would condemn him. Three days later he became the first president to resign from office. Nixon's successor was Gerald Ford. The first substantive act of the new president was to pardon Nixon. When the pardon was announced, some people concluded that Ford and Nixon had struck a deal.

Nixon's Resignation

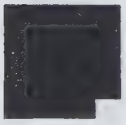
The Watergate scandal prompted the reform of abuses that predated the Nixon administration. The executive's usurpation of legislative prerogatives, which historian Arthur M. Schlesinger, Jr., called "the imperial presidency," dated from Franklin D. Roosevelt's administration. Roosevelt had signed executive agreements that were in effect treaties with foreign

nations, but he never sent them to the Senate for its advice and consent. Presidents Truman and Johnson had led the nation into the Korean and Vietnam Wars without securing a congressional declaration of war as required by the Constitution. And President Nixon had impounded—that is, refused to spend—federal funds appropriated for health, the environment, space exploration, and other programs.

Post-Watergate Restrictions on Executive Power

To end the nation's participation in undeclared wars, Congress in 1973 overrode Nixon's veto and passed the War Powers Act, which mandated that "in every possible instance" the president must consult with Congress before sending American troops into foreign wars. Under this law the president could commit American troops abroad for no more than sixty days, after which he had to obtain congressional approval. (The act did not specify what Congress could do if the president refused to comply.) The next year Congress approved the Congressional Budget and Impoundment Control Act, which prohibited the impounding of federal money. Finally, to aid citizens who were victims of dirty-tricks campaigns, in 1974 Congress strengthened the Freedom of Information Act of 1966. The new legislation, which Congress passed over President Ford's veto, permitted access to government documents and provided penalties if the government "arbitrarily or capriciously" withheld such information.

Summary



The 1960s had begun with high hopes for a more democratic America. Starting with the first sit-ins in 1960, civil rights volunteers spread the quest for racial equality to all parts of the country. And activists in this movement were among the founders of other protest movements, including feminism, the New Left, Black Power, gay rights, and emerging civil rights movements for Native Americans and Mexican Americans. Although these movements achieved notable goals, including landmark civil rights legislation, another legacy was political disenchantment in the United States.

The thirteen years coinciding with the presidencies of John Kennedy, Lyndon Johnson, and Richard Nixon were a period of increasing disillusionment. As historian James T. Patterson observed, the period began with "grand expectations" about the attainability of "the Good Life." But riots in cities, violence on campus, diminished respect for government leaders, and growing economic uncertainty shattered Americans' illusions and supplanted earlier hopes for peaceful social change. "Americans had gone into the age of Kennedy and Nixon convinced that their government's action . . . could make over the world, at home and abroad," journalist Godfrey Hodgson explained, but "they had been burned." They had learned some hard lessons: how much harder it was to change the world than they thought it would be, and how there often was "little that political action could achieve, however idealistic its intentions, without evoking unforeseen and unwanted reaction."

When John F. Kennedy delivered his inaugural address in 1961, he challenged Americans to "pay any price, bear any burden, meet any hardship" to defend freedom and inspire the world. Twelve years later, Richard M. Nixon echoed that rhetoric: "Let us pledge to make these four years the best four years in America's history, so that on its 200th birthday America will be as young and vital as when it began, and as bright a beacon of hope for all the world." Largely because of his own actions, however, Nixon resigned the presidency before the nation could celebrate its bicentennial in 1976. Rather than young and vital, America seemed bruised and battered.

Legacy for a People and a Nation

Watergate and Political Reforms

The legacy of Watergate has helped to undermine, if not destroy, many Americans' trust in their government. For the past twenty-five years, Watergate has contributed greatly to political cynicism, and it has cast a shadow over the presidencies of all of Nixon's successors, from Gerald Ford to Bill Clinton. Its legacy is evident in the proliferation of special prosecutors, independent counsels, and congressional investigating committees, not to mention TV and newspaper reporters, who have examined political and personal behavior in the White House as never before. Both John F. Kennedy and Lyndon B. Johnson were widely known to be philanderers, yet the press subscribed to an unwritten code that held that such behavior was off-limits to reporters. This hands-off decorum all changed with Watergate. After 1974 Washington became an increasingly paranoiac and

cynical place where even the smallest presidential mistakes were scrutinized and vilified.

In 1978 Congress passed the Ethics in Government Act authorizing the appointment of special prosecutors to investigate criminal wrongdoing in the White House. Sometimes, the controversial decisions and behavior were substantive, such as Ronald Reagan's Iran-contra affair and Bill Clinton's host of scandals, including a sexual relationship with a White House intern. The last special prosecutor, known as an independent counsel, was Kenneth Starr, who in more than five years of investigating scandals in the Clinton White House spent $48 million for private investigators, office space, computers, travel, and other expenses. In 1999 the independent counsel law expired and was not extended.

Watergate's legacy, however, is not limited to scandal-mongering. Soon after Nixon's resignation, Congress made a modest attempt to reduce campaign fundraising abuses, setting ceilings on campaign contributions. However, instead of limiting such abuses, this legislation provided new loopholes for electioneers to exploit. To circumvent the ceilings on contributions, special-interest groups established political-action committees (PACs). In 1980 there were 2,765 PACs, more than four times as many as in 1974. Moreover, Capitol Hill was crawling as never before with lobbyists from trade associations, corporations, labor unions, and single-issue groups such as the National Rifle Association. As the influence of money in politics has grown in the aftermath of Watergate, so too has political disillusionment. In the 1998 congressional elections, spending on television advertising, largely negative "attack" ads, reached an all-time high, while voter turnout was the lowest in fifty-six years.

THE CHALLENGE OF DEMOCRACY
GOVERNMENT IN AMERICA

Seventh Edition

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chapter

1

Freedom, Order, or Equality?

★ **The Globalization of American Government**

★ **The Purposes of Government**
- Maintaining Order
- Providing Public Goods
- Promoting Equality

★ **A Conceptual Framework for Analyzing Government**

★ **The Concepts of Freedom, Order, and Equality**
- Freedom
- Order
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★ **Two Dilemmas of Government**
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- The Modern Dilemma: Freedom Versus Equality

★ **Ideology and the Scope of Government**
- Totalitarianism
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- Libertarianism
- Anarchism
- Liberals and Conservatives: The Narrow Middle

★ **American Political Ideologies and the Purpose of Government**
- Liberals Versus Conservatives: The New Differences
- A Two-Dimensional Classification of Ideologies

★ ★ ★ ★ ★ ★ ★ ★

"ILOVEYOU," said the e-mail message. "Kindly check the attached LOVELETTER coming from me." Thousands of intrigued men and women around the globe eagerly clicked the attachment—only to have the malicious love-bug virus destroy their computer files.

ILOVEYOU messages popped up on e-mail systems around the world on May 3, 2000. The virus proved especially devastating in the United States, wiping out files of private citizens, shutting down e-mail systems across the country, and costing untold millions of dollars in damage. On May 5, the Federal Bureau of Investigation acted under the U.S. Computer Abuse Act. By May 8, FBI agents were in Manila when Philippine investigators raided an apartment to which they traced the virus.

The police eventually identified a twenty-three-year-old computer school dropout as the love-bug's creator. They couldn't charge him, however, because the Philippines had no law against computer hacking. Two months later, the police charged him under a 1998 law regulating the use of "access devices" such as credit cards and passwords.[1] Frustrated FBI agents left the Philippines knowing that they had helped find the culprit but could not bring him to justice.

globalization
The increasing interdependence of citizens and nations across the world.

This vignette illustrates a facet of **globalization**—the increasing interdependence of citizens and nations across the world—and the challenges that globalization presents to American government. Someone in a country halfway around the world caused damage to U.S. companies and distress to American citizens, and our government could do little about it. In this book, we will deal with the many effects of globalization on U.S. government, but we will also point out important effects of U.S. politics on government elsewhere.

The love-bug virus incident also raises the issue of the purpose and value of government at home, which is our main interest in this text. We have strong laws against computer hackers and—with a judge-issued warrant—the FBI can use its surveillance system to search the e-mail of a suspected criminal or terrorist. The FBI's software, originally called Carnivore, is installed at an Internet provider to record to-and-from communications traffic, but it can also capture and archive all messages sent via the Internet provider.[2] Although the British government exercises even more sweeping powers over e-mail communications, some say that the FBI's wiretapping power over the Internet is too great.[3] They see the Internet as embodying personal freedom and would keep it virtually free of government regulation. Others see a different technological threat; they fear the consequences of the "digital divide"—the greater use of Internet technology by wealthy, white, urban, and highly educated segments of society—that will

leave other segments of society far behind.[4] How much in the form of government subsidies, if any, should government provide to close the digital divide?

Which is better: to live under a government that allows individuals complete freedom to do whatever they please or to live under one that enforces strict law and order? *Which is better:* to let all citizens keep the same share of their income or to tax wealthier people at a higher rate to fund programs for poorer people? These questions pose dilemmas tied to opposing political philosophies that place different values on freedom, order, and equality.

This book explains American government and politics in light of these dilemmas. It does more than explain the workings of our government; it encourages you to think about what government should—and should not—do. And it judges the American government against democratic ideals, encouraging you to think about how government should make its decisions. As its title implies, *The Challenge of Democracy* argues that good government often involves difficult choices.

College students frequently say that American government and politics are hard to understand. In fact, many people voice the same complaint. More than 60 percent of a national sample interviewed after the 2000 presidential election agreed with the statement "Politics and government seem so complicated that a person like me can't understand what's going on."[5] With this book, we hope to improve your understanding of "what's going on" by analyzing the norms, or values, that people use to judge political events. Our purpose is not to preach what people ought to favor in making policy decisions; it is to teach what values are at stake.

Teaching without preaching is not easy; no one can completely exclude personal values from political analysis. But our approach minimizes the problem by concentrating on the dilemmas that confront governments when they are forced to choose between important policies that threaten equally cherished values, such as freedom of speech and personal security.

Every government policy reflects a choice between conflicting values. We want you to understand this idea, to understand that all government policies reinforce certain values (norms) at the expense of others. We want you to interpret policy issues (for example, should assisted suicide go unpunished?) with an understanding of the fundamental values in question (freedom of action versus order and protection of life) and the broader political context (liberal or conservative politics).

By looking beyond the specifics to the underlying normative principles, you should be able to make more sense out of politics. Our framework for analysis does not encompass all the complexities of American government, but it should help your knowledge grow by improving your comprehension of political information. We begin by considering the basic purposes of government. In short, why do we need it?

THE GLOBALIZATION OF AMERICAN GOVERNMENT

Most people do not like being told what to do. Fewer still like being coerced into acting a certain way. Yet, billions of people in countries across the world willingly submit to the coercive power of government. They accept laws that state on which side of the road to drive, how many wives (or husbands) they can have, what constitutes a contract, how to dispose of human waste—and how much they must pay to support the government that makes these coercive laws.

government
The legitimate use of force to control human behavior; also, the organization or agency authorized to exercise that force.

national sovereignty
"A political entity's externally recognized right to exercise final authority over its affairs."

In the first half of the twentieth century, people thought of government mainly in territorial terms. Indeed, a standard definition of **government** was the legitimate use of force—including firearms, imprisonment, and execution—within specified geographical boundaries to control human behavior. For over three centuries, since the Peace of Westphalia in 1648 ended the Thirty Years War in Europe, international relations and diplomacy have been based on the principle of **national sovereignty,** defined as "a political entity's externally recognized right to exercise final authority over its affairs."[6] Simply put, national sovereignty means that each national government has the right to govern its people as it wishes, without interference from other nations.

Some scholars argued strongly early in the twentieth century that a body of international law controlled the actions of supposedly sovereign nations, but their argument was essentially theoretical.[7] In the practice of international relations, there was *no* sovereign power over nations. Each enjoyed complete independence to govern its territory without interference from other nations. Although the League of Nations and later the United Nations were supposed to introduce supranational order into the world, even these international organizations explicitly respected national sovereignty as the guiding principle of international relations. The U.N. Charter, Article 2.1, states: "The Organization is based on the principle of the sovereign equality of all its Members."

As we enter into a world of increasing globalization in the twenty-first century, human rights weigh more heavily in international politics. Consider what Kofi-Annan, secretary general of the United Nations, said in support of NATO airstrikes against Serbian forces to stop the ethnic cleansing in Kosovo. Speaking before the United Nations Commission on Human Rights on April 7, 1999, the secretary general warned rogue nations that they could no longer "hide" behind the U.N. Charter. He said that the protection of human rights must "take precedence over concerns of state sovereignty."[8]

The world's new concern with human rights is not limited to rogue nations; all nations are grappling with international law. In late 2000, the Japanese government admitted violating a 1907 Hague Convention on prisoners' rights in wartime and gave a cash settlement to survivors of 1,000 Chinese prisoners forced to work under harsh conditions in World War II—the first time that Japan awarded compensation for a violation of international law.[9] National laws in Europe are increasingly being brought into line with laws of the European Union. For example, rulings of the European Court of Human Rights in 1999 led Britain to end its ban on gay men and women in the military.[10]

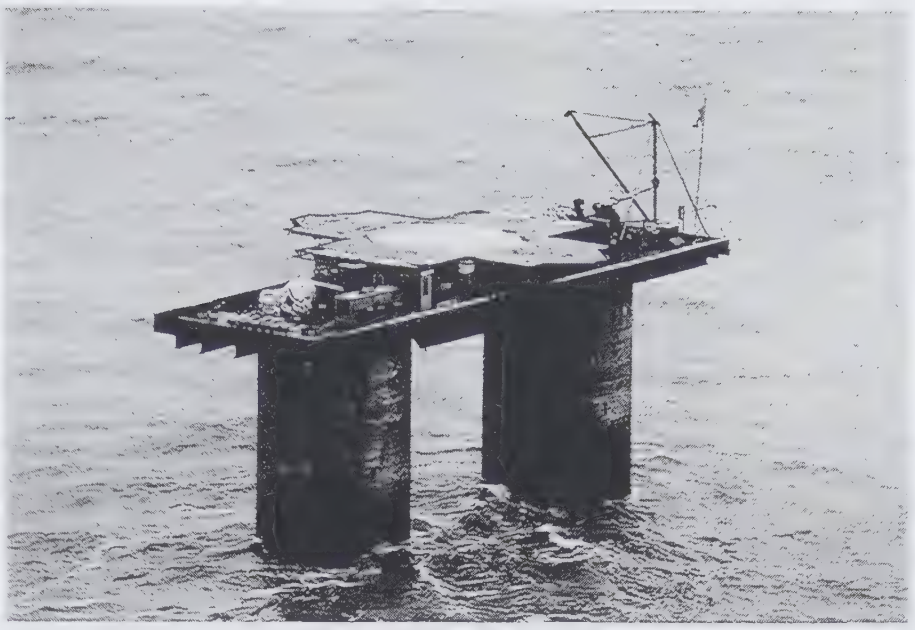
Our government, you might be surprised to learn, is worried about this trend of holding nations accountable to international law. In fact, the United States failed to sign the 1998 treaty to create an International Criminal Court that would define and try crimes against humanity until the last month of Clinton's presidency, when he signed it over advisors' objections and sent it to a likely death under the Bush presidency.[11]

Can You Explain Why...
the United States might oppose an international criminal court?

Why would the United States oppose such an international court? One reason is its concern that U.S. soldiers stationed abroad might be arrested and tried in that court.[12] Another reason is the death penalty, which has been abolished by more than half the countries in the world and all countries in the European Union. Indeed, in 1996, the International

Sealand Web Site

The Principality of Sealand is perched on a World War II military platform approximately six miles off the southeastern coast of England. Located in international waters, the platform was acquired in 1967 by Paddy Roy Bates, a retired British officer who declared it a sovereign nation and lived there with his family for decades. In 2000, he leased it to an Internet firm, HavenCo, headed by an American citizen. HavenCo (http://www.havenco.com) expects customers "who wish to keep their e-mail safe from government subpoenas as well as other businesses seeking to avoid regulation, like international electronic commerce, banking and gambling."



Commission of Jurists condemned our death penalty as "arbitrarily and racially discriminatory," and there is a concerted campaign across Europe to force the sovereign United States of America to terminate capital punishment.[13]

While the United States is the world's most powerful nation, it is not immune to globalization (see Politics in a Changing World 1.1) and to the erosion of national sovereignty. Ironically, our military strength qualifies the United States to be the world's enforcer of international decisions. As the world's cop, should the United States be above international law if it finds its *own* sovereignty threatened by nations that don't share *our* values? What course of action should we follow if this situation occurs?

Although our text is about American national government, it recognizes the growing impact of international politics and world opinion on U.S. politics. The Cold War era, of course, had a profound effect on domestic politics because the nation spent heavily on the military and restricted trading with communist countries. Now, we are closely tied through trade to former enemies (we now import more goods from communist China than from France and Britain combined) and thoroughly embedded in a worldwide economic, social, and political network. (See Chapter 20, "Global Policy," for an extended treatment of the economic and social dimensions of globalization.) More than ever, we must discuss American politics while casting an eye abroad to see how foreign affairs affect our government and how American politics affects government in other nations.

THE PURPOSES OF GOVERNMENT

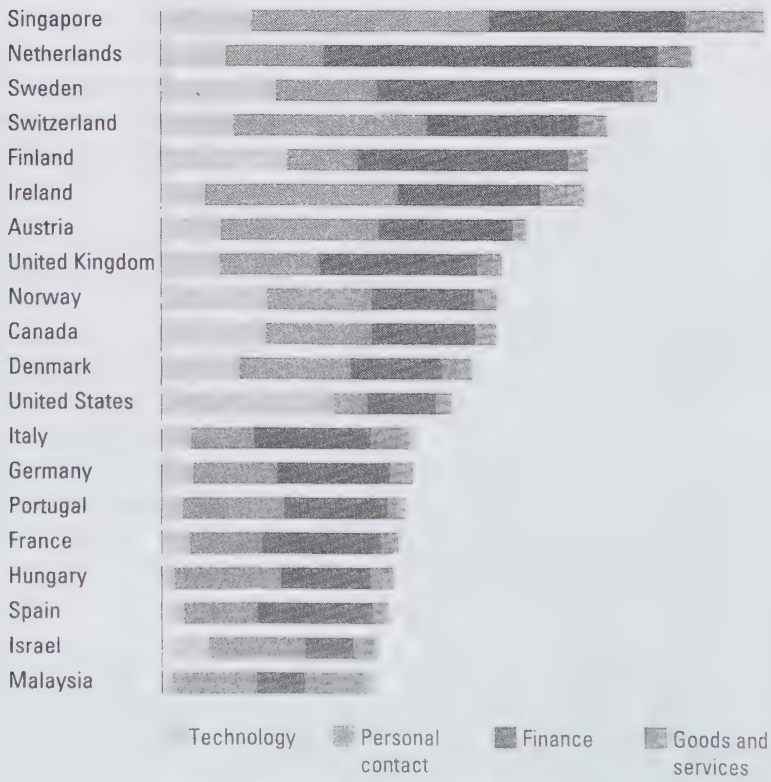
Governments at any level require citizens to surrender some freedom as part of being governed. Although some governments minimize their infringements on personal freedom, no government has as a goal the maximization of personal freedom. Governments exist to control; *to govern* means "to control." Why do people surrender their freedom to this

1.1 The "Globalization" of Nations

The text presents a working definition of globalization as "the increasing interdependence of citizens and nations across the world." But citizens and nations differ in their degree of global interdependence. Scholars measure the extent of globalization in different nations by combining various indicators of personal contact across national borders, international financial transactions, and use of international communication through technology. Here is a ranking of the "global top twenty" according to a recent study. Nations were scored on the basis of four sets of indicators: (1) *Goods and services:* convergence of domestic prices with international prices, and international trade as a share of gross domestic product (see Ch. 18). (2) *Finance:* Inward- and outward-directed foreign investment, portfolio capital flows, and income payments and receipts as shares of GDP. (3) *Personal contacts:* Cross-border remittances and other transfers as a share of GDP, minutes of international phone calls per capita, and number of international travelers per capita. (4) *Technology:* Percentage of population online, number of Internet hosts per capita, and number of secure servers per capita.

Although the United States has been catching up in the globalization process, it does not rank among the most globalized nations. First place goes to Singapore, an international city-state in southeast Asia located astride a confluence of cultures. The next eight countries are core countries in Western Europe, but even Canada edges out the United States. Relative to other globalized nations, Americans have little personal contact with people in other countries. Of course, the large population of the United States helps its domestic self-sufficiency, but the process of globalization seems inexorable.

Source: A.T. Kearney/*Foreign Policy Magazine* Globalization Index. "The Global Top Twenty," *Foreign Policy,* January–February 2001, p. 58. Copyright 2001, A.T. Kearney, Inc. and the Carnegie Endowment for International Peace. All rights reserved. A.T. Kearney is a registered service mark of A.T. Kearney, Inc. *Foreign Policy* is a trademark of the Carnegie Endowment for International Peace.



Leviathan, Hobbes's All-Powerful Sovereign

This engraving is from the 1651 edition of Leviathan, *by Thomas Hobbes. It shows Hobbes's sovereign brandishing a sword in one hand and the scepter of justice in the other. He watches over an orderly town, made peaceful by his absolute authority. But note that the sovereign's body is composed of tiny images of his subjects. He exists only through them. Hobbes explains that such government power can be created only if people "confer all their power and strength upon one man, or upon one assembly of men, that may reduce all their wills, by plurality of voices, unto one will."*

control? To obtain the benefits of government. Throughout history, government has served two major purposes: maintaining order (preserving life and protecting property) and providing public goods. More recently, some governments have pursued a third purpose: promoting equality, which is more controversial.

Maintaining Order

order
The rule of law to preserve life and protect property. Maintaining order is the oldest purpose of government.

Maintaining order is the oldest objective of government. **Order** in this context is rich with meaning. Let's start with "law and order." Maintaining order in this sense means establishing the rule of law to preserve life and protect property. To the seventeenth-century English philosopher Thomas Hobbes (1588–1679), preserving life was the most important function of government. In his classic philosophical treatise, *Leviathan* (1651), Hobbes described life without government as life in a "state of nature." Without rules, people would live as predators do, stealing and killing for their personal benefit. In Hobbes's classic phrase, life in a state of nature would be "solitary, poor, nasty, brutish, and short." He believed that a single ruler, or sovereign, must possess unquestioned authority to guarantee the safety of the weak, to protect them from the attacks of the strong. Hobbes named his all-powerful government Leviathan, after a biblical sea monster. He believed that complete obedience to Leviathan's strict laws was a small price to pay for the security of living in a civil society.

Most of us can only imagine what a state of nature would be like. But in some parts of the world, whole nations have experienced lawlessness. It occurred in Somalia in 1992 after the central government collapsed; in Haiti in 1994 after the elected president had to flee; and in Bosnia in 1995

after the former Yugoslavia collapsed and Croats, Serbs, and Muslims engaged in ethnic war. In each case, U.S. forces intervened to prevent starvation and restore a semblance of order. Throughout history, authoritarian rulers have used people's fear of civil disorder to justify taking power. Ironically, the ruling group itself—whether monarchy, aristocracy, or political party—then became known as the *established order.*

Hobbes's conception of life in the cruel state of nature led him to view government primarily as a means of guaranteeing people's survival. Other theorists, taking survival for granted, believed that government protected order by preserving private property (goods and land owned by individuals). Foremost among them was John Locke (1632–1704), an English philosopher. In *Two Treatises on Government* (1690), he wrote that the protection of life, liberty, and property was the basic objective of government. His thinking strongly influenced the Declaration of Independence; it is reflected in the Declaration's famous phrase identifying "Life, Liberty, and the Pursuit of Happiness" as "unalienable Rights" of citizens under government.

Not everyone believes that the protection of private property is a valid objective of government. The German philosopher Karl Marx (1818–1883) rejected the private ownership of property used in the production of goods or services. Marx's ideas form the basis of **communism,** a complex theory that gives ownership of all land and productive facilities to the people—in effect, to the government. In line with communist theory, the 1977 constitution of the former Soviet Union declared that the nation's land, minerals, waters, and forests "are the exclusive property of the state." In addition, "The state owns the basic means of production in industry, construction, and agriculture; means of transport and communication; the banks, the property of state-run trade organizations and public utilities, and other state-run undertakings."[14]

communism
A political system in which, in theory, ownership of all land and productive facilities is in the hands of the people, and all goods are equally shared. The production and distribution of goods are controlled by an authoritarian government.

Years after the Soviet Union collapsed, the Russian public remains deeply split over changing the old communist-era constitution to permit the private ownership of land. Even outside the formerly communist societies, the extent to which government protects private property is a political issue that forms the basis of much ideological debate.

Providing Public Goods

After governments have established basic order, they can pursue other ends. Using their coercive powers, they can tax citizens to raise money to spend on **public goods,** which are benefits and services that are available to everyone—such as education, sanitation, and parks. Public goods benefit all citizens but are not likely to be produced by the voluntary acts of individuals. The government of ancient Rome, for example, built aqueducts to carry fresh water from the mountains to the city. Road building was another public good provided by the Roman government, which also used the roads to move its legions and to protect the established order.

public goods
Benefits and services, such as parks and sanitation, that benefit all citizens but are not likely to be produced voluntarily by individuals.

Government action to provide public goods can be controversial. During President James Monroe's administration (1817–1825), many people thought that building the Cumberland Road (between Cumberland, Maryland, and Wheeling, West Virginia) was not a proper function of the national government, the Romans notwithstanding. Over time, the scope

★

Rosa Parks: She Sat for Equality

Rosa Parks had just finished a day's work as a seamstress and was sitting in the front of a bus in Montgomery, Alabama, going home. A white man claimed her seat, which he could do according to the law in December 1955. When she refused to move and was arrested, angry blacks, led by Dr. Martin Luther King, Jr., began a boycott of the Montgomery bus company.

of government functions in the United States has expanded. During President Dwight Eisenhower's administration in the 1950s, the federal government outdid the Romans' noble road building. Despite his basic conservatism, Eisenhower launched the massive Interstate Highway System, at a cost of $27 billion (in 1950s dollars). Yet some government enterprises that have been common in other countries—running railroads, operating coal mines, generating electric power—are politically controversial or even unacceptable in the United States. People disagree about how far the government ought to go in using its power to tax to provide public goods and services and how much of that realm should be handled by private business for profit.

Promoting Equality

The promotion of equality has not always been a major objective of government. It has gained prominence only in this century, in the aftermath of industrialization and urbanization. Confronted by the paradox of poverty amid plenty, some political leaders in European nations pioneered extensive government programs to improve life for the poor. Under the emerging concept of the welfare state, government's role expanded to provide individuals with medical care, education, and a guaranteed income, "from cradle to grave." Sweden, Britain, and other nations adopted welfare programs aimed at reducing social inequalities. This relatively new purpose of government has been by far the most controversial. People often oppose taxation for public goods (building roads and schools, for example) because of its cost alone. They oppose more strongly taxation for government programs to promote economic and social equality on principle.

The key issue here is government's role in redistributing income, taking from the wealthy to give to the poor. Charity (voluntary giving to the poor)

has a strong basis in Western religious traditions; using the power of the state to support the poor does not. (In his nineteenth-century novels, Charles Dickens dramatized how government power was used to imprison the poor, not to support them.) Using the state to redistribute income was originally a radical idea, set forth by Marx as the ultimate principle of developed communism: "from each according to his ability, to each according to his needs."[15] This extreme has never been realized in any government, not even in communist states. But over time, taking from the rich to help the needy has become a legitimate function of most governments.

That function is not without controversy, however. Especially since the Great Depression of the 1930s, the government's role in redistributing income to promote economic equality has been a major source of policy debate in the United States. For example, after the Republicans won control of Congress in 1994, a fierce partisan battle was waged over the Aid to Families with Dependent Children (AFDC) program, created by the Democrats in 1935. The nation's main cash welfare program, AFDC issued government checks to low-income mothers to help them care for their children. The Republicans had long argued that the program was inappropriate and ineffective, and in 1996 they ended it over the strenuous objections of Democrats.

Government can also promote social equality through policies that do not redistribute income. For example, it can regulate social behavior to enforce equality, as it did when the Texas Supreme Court cleared the way for homosexuals to serve in the Dallas police department in 1993. Policies that regulate social behavior, like those that redistribute income, inevitably clash with the value of personal freedom.

A CONCEPTUAL FRAMEWORK FOR ANALYZING GOVERNMENT

Citizens have very different views of how vigorously they want government to maintain order, provide public goods, and promote equality. Of the three objectives, providing for public goods usually is less controversial than maintaining order or promoting equality. After all, government spending for highways, schools, and parks carries benefits for nearly every citizen. Moreover, services merely cost money. The cost of maintaining order and promoting equality is greater than money; it usually means a tradeoff in basic values.

To understand government and the political process, you must be able to recognize these tradeoffs and identify the basic values they entail. Just as people sit back from a wide-screen motion picture to gain perspective, to understand American government you need to take a broad view, a view much broader than that offered by examining specific political events. You need to use political concepts.

A concept is a generalized idea of a set of items or thoughts. It groups various events, objects, or qualities under a common classification or label. The framework that guides this book consists of five concepts that figure prominently in political analysis. We regard the five concepts as especially important to a broad understanding of American politics, and we use them repeatedly throughout the book. This framework will help you evaluate political events long after you have read this text.

The five concepts that we emphasize deal with the fundamental issues of what government tries to do and how it decides to do it. The concepts that relate to what government tries to do are *order, freedom,* and *equality*. All governments by definition value order; maintaining order is part of the meaning of government. Most governments at least claim to preserve individual freedom while they maintain order, although they vary widely in the extent to which they succeed. Few governments even profess to guarantee equality, and governments differ greatly in policies that pit equality against freedom. Our conceptual framework should help you evaluate the extent to which the United States pursues all three values through its government.

How government chooses the proper mix of order, freedom, and equality in its policymaking has to do with the process of choice. We evaluate the American governmental process using two models of democratic government: *majoritarian* and *pluralist*. Many governments profess to be democracies. Whether they are or are not depends on their (and our) meaning of the term. Even countries that Americans agree are democracies—for example, the United States and Britain—differ substantially in the type of democracy they practice. We can use our conceptual models of democratic government both to classify the type of democracy practiced in the United States and to evaluate the government's success in fulfilling that model.

The five concepts can be organized into two groups.

- Concepts that identify the values pursued by government:

  Freedom

  Order

  Equality

- Concepts that describe models of democratic government:

  Majoritarian democracy

  Pluralist democracy

The rest of this chapter examines freedom, order, and equality as conflicting values pursued by government. Chapter 2 discusses majoritarian democracy and pluralist democracy as alternative institutional models for implementing democratic government.

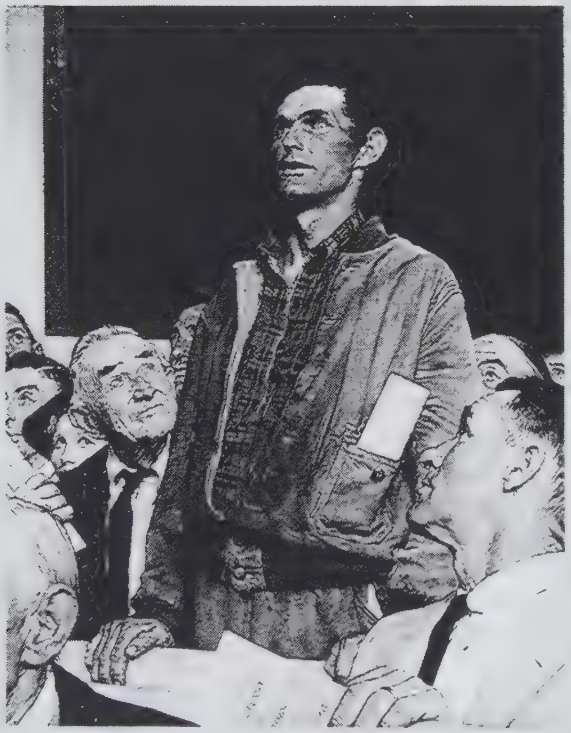
THE CONCEPTS OF FREEDOM, ORDER, AND EQUALITY

These three terms—*freedom, order,* and *equality*—have a range of connotations in American politics. Both *freedom* and *equality* are positive terms that politicians have learned to use to their own advantage. Consequently, freedom and equality mean different things to different people at different times, depending on the political context in which they are used. Order, on the other hand, has negative connotations for many people because it symbolizes government intrusion into private lives. Except during periods of social strife, few politicians in Western democracies call openly for more order. Because all governments infringe on freedom, we examine that concept first.

★ feature 1.1

The Four Freedoms

Norman Rockwell became famous in the 1940s for the humorous, homespun covers he painted for the *Saturday Evening Post*, a weekly magazine. Inspired by an address to Congress in which President Roosevelt outlined his goals for world civilization, Rockwell painted *The Four Freedoms*, which were reproduced in the *Post*. Their immense popularity led the government to print posters of the illustrations for the Treasury Department's war bond drive. The Office of War Information also reproduced *The Four Freedoms* and circulated the posters in schools, clubhouses, railroad stations, post offices, and other public buildings. Officials even had copies circulated on the European front to remind soldiers of the liberties for which they were fighting. It is said that no other paintings in the world have ever been reproduced or circulated in such vast numbers as *The Four Freedoms*.



Freedom of Speech

Freedom of Worship

Freedom from Fear

Freedom from Want

Roosevelt's "Four Freedoms" Speech

Freedom

Freedom can be used in two major senses: freedom of and freedom from. President Franklin Delano Roosevelt used the word in both senses in a speech he made shortly before the United States entered World War II. He described four freedoms—freedom of religion, freedom of speech, freedom from fear, and freedom from want. The noted illustrator Norman Rockwell gave Americans a vision of these freedoms in a classic set of paintings published in the *Saturday Evening Post* (see Feature 1.1).

freedom of
An absence of constraints on behavior, as in *freedom of speech* or *freedom of religion.*

freedom from
Immunity, as in *freedom from want.*

Freedom of is the absence of constraints on behavior; it means freedom *to* do something. In this sense, *freedom* is synonymous with *liberty*. Two of Rockwell's paintings—*Freedom of Worship* and *Freedom of Speech*—exemplify this type of freedom.

Freedom from is the message of the other paintings, *Freedom from Fear* and *Freedom from Want*. Here freedom suggests immunity from fear and want. In the modern political context, *freedom from* often symbolizes the fight against exploitation and oppression. The cry of the civil rights movement in the 1960s—"Freedom Now!"—conveyed this meaning. If you recognize that freedom in this sense means immunity from discrimination, you can see that it comes close to the concept of equality.[16] In this book, we avoid using *freedom of* to mean "freedom from"; for this sense, we simply use *equality*. When we use *freedom*, we mean "freedom of."

Order

When *order* is viewed in the narrow sense of preserving life and protecting property, most citizens would concede the importance of maintaining order and thereby grant the need for government. For example, "domestic Tranquility" (order) is cited in the preamble to the Constitution. However, when *order* is viewed in the broader sense of preserving the social order, people are more likely to argue that maintaining order is not a legitimate function of government (see Compared with What? 1.1). *Social order* refers to established patterns of authority in society and to traditional modes of behavior. It is the accepted way of doing things. The prevailing social order prescribes behavior in many different areas: how students should dress in school (neatly, no purple hair) and behave toward their teachers (respectfully); under what conditions people should have sexual relations (married, different sexes); what the press should not publish (sexually explicit photographs); and what the proper attitude toward religion and country should be (reverential). It is important to remember that the social order can change. Today, perfectly respectable men and women wear bathing suits that would have caused a scandal at the turn of the century.

police power
The authority of a government to maintain order and safeguard citizens' health, morals, safety, and welfare.

A government can protect the established order by using its **police power**—its authority to safeguard residents' safety, health, welfare, and morals. The extent to which government should use this authority is a topic of ongoing debate in the United States and is constantly being redefined by the courts. In the 1980s, many states used their police powers to pass legislation that banned smoking in public places. In the 1990s, a hot issue was whether government should control the dissemination of pornography on the Internet. There are those who fear the evolution of a police state—a government that uses its power to regulate nearly all aspects of behavior. For example, South Africa under the former apartheid regime had laws governing intermarriage between blacks and whites and prescribing where an interracial married couple could live. It is no accident that the chief law enforcement officer in South Africa was called the minister of law and *order*.

Most governments are inherently conservative; they tend to resist social change. But some governments have as a primary objective the restructuring of the social order. Social change is most dramatic when a government is overthrown through force and replaced by a revolutionary government. Societies can also work to change social patterns more gradually through the legal process. Our use of the term *order* in this book includes all three aspects: preserving life, protecting property, and maintaining traditional patterns of social relationships.

Equality

political equality
Equality in political decision making: one vote per person, with all votes counted equally.

As with *freedom* and *order*, *equality* is used in different senses, to support different causes. **Political equality** in elections is easy to define: each citizen has one and only one vote. This basic concept is central to democratic theory—a subject explored at length in Chapter 2. But when some people advocate political equality, they mean more than one person, one vote. These people contend that an urban ghetto dweller and the chairman of the board of Microsoft are not politically equal, despite the fact that each

Video: The Status of Women

compared with what?

1.1 The Importance of Order as a Political Value

Compared with citizens in other nations, Americans do not value order very much. Surveys in the United States and in twenty-eight other countries asked respondents to select which of the following four national goals was "very important."

- Maintaining order in the nation
- Giving people more say in important government decisions
- Fighting rising prices
- Protecting freedom of speech

Just 33 percent of U.S. respondents thought that "maintaining order" was very important. Compared with citizens in other countries, Americans do not value government control of social behavior.

Source: World Values Survey, 1995–1997.

A Woman's Place Is in the Sky

During World War II, women served in the military in "auxiliary" corps. The U.S. Army had the Women's Army Auxiliary Corps (shortened to WAC), and the Navy had the Women Appointed for Voluntary Emergency Service (WAVES). Women in these corps usually served in clerical and support units and were not trained for "men's work." In today's military, women often occupy traditionally male roles—such as helicopter pilot.

has one vote. Through occupation or wealth, some citizens are more able than others to influence political decisions. For example, wealthy citizens can exert influence by advertising in the mass media or by contacting friends in high places. Lacking great wealth and political connections, most citizens do not have such influence. Thus, some analysts argue that equality in wealth, education, and status—that is, **social equality**—is necessary for true political equality.

social equality
Equality in wealth, education, and status.

There are two routes to achieving social equality: providing equal opportunities and ensuring equal outcomes. **Equality of opportunity** means that each person has the same chance to succeed in life. This idea is deeply ingrained in American culture. The Constitution prohibits titles of nobility and does not make owning property a requirement for holding public office. Public schools and libraries are free to all. For many people, the concept of social equality is satisfied just by offering equal opportunities for advancement—it is not essential that people actually end up being equal. For others, true social equality means nothing less than **equality of outcome.**[17] President Johnson expressed this view in 1965: "it is not enough just to open the gates of opportunity. . . . We seek . . . not just equality as a right and a theory but equality as a fact and equality as a result."[18] According to this outlook, it is not enough that governments provide people with equal opportunities; they must also design policies that redistribute wealth and status so that economic and social equality are actually achieved. In education, equality of outcome has led to federal laws that require comparable funding for men's and women's college sports. In business, equality of outcome has led to certain affirmative action programs to increase minority hiring and to the active recruitment of women, blacks, and Latinos to fill jobs. Equality of outcome has also produced federal laws that require employers to pay men and women equally for equal work. In recent years, the very concept of affirmative action has come under scrutiny. In 1996, for example, the University of California's Board of Regents ended its policy of using race and gender criteria in admitting students and hiring professors.

equality of opportunity
The idea that each person is guaranteed the same chance to succeed in life.

equality of outcome
The concept that society must ensure that people are equal, and governments must design policies to redistribute wealth and status so that economic and social equality is actually achieved.

Some link equality of outcome with the concept of government-supported **rights**—the idea that every citizen is entitled to certain benefits of government, that government should guarantee its citizens adequate (if not equal) housing, employment, medical care, and income as a matter of right. If citizens are entitled to government benefits as a

rights
The benefits of government to which every citizen is entitled.

matter of right, government efforts to promote equality of outcome become legitimized.

Clearly, the concept of equality of outcome is quite different from that of equality of opportunity, and it requires a much greater degree of government activity. It also clashes more directly with the concept of freedom. By taking from one to give to another—which is necessary for the redistribution of income and status—the government clearly creates winners and losers. The winners may believe that justice has been served by the redistribution. The losers often feel strongly that their freedom to enjoy their income and status has suffered.

TWO DILEMMAS OF GOVERNMENT

The two major dilemmas facing American government at the end of the twentieth century stem from the oldest and the newest objectives of government—maintaining order and promoting equality. Both order and equality are important social values, but government cannot pursue either without sacrificing a third important value: individual freedom. The clash between freedom and order forms the original dilemma of government; the clash between freedom and equality forms the modern dilemma of government. Although the dilemmas are different, each involves trading some amount of freedom for another value.

The Original Dilemma: Freedom Versus Order

The conflict between freedom and order originates in the very meaning of government as the legitimate use of force to control human behavior. How much freedom must a citizen surrender to government? The dilemma has occupied philosophers for hundreds of years. In the eighteenth century, the French philosopher Jean Jacques Rousseau (1712–1778) wrote that the problem of devising a proper government "is to find a form of association which will defend and protect with the whole common force the person and goods of each associate, and in which each, while uniting himself with all, may still obey himself alone, and remain free as before."[19]

The original purpose of government was to protect life and property, to make citizens safe from violence. How well is the American government doing today in providing law and order to its citizens? More than 40 percent of the respondents in a 1997 national survey said that there were areas within a mile of their home where they were "afraid to walk alone at night." Only 7 percent felt "more safe" in their community compared to the year before, and 33 percent felt "less safe."[20] Simply put, Americans view crime (which has actually decreased in recent years) as a critical issue and do not believe that their government adequately protects them.

Can You Explain Why...
crime rates rose in communist countries after they abandoned communism?

When the old communist governments still ruled in Eastern Europe, the climate of fear in urban America stood in stark contrast to the pervasive sense of personal safety in cities such as Moscow, Warsaw, and Prague. Then it was common to see old and young strolling late at night along the streets and in the parks of these communist cities. The formerly communist regimes gave their police great powers to control guns, monitor citizens' movements, and arrest and imprison suspicious people, which enabled them to do a better job of maintaining order. Communist governments deliberately chose order over freedom. But with the collapse of

communism came the end of strict social order in all communist countries. Even in China, which still claims to be communist but where the majority of people now work in the private economy, there has been an increase in crime, notably violent crime. As relaxed state controls have created more motives and opportunities for crime, a Chinese professor said, "It's become difficult to control people."[21]

The crisis over acquired immune deficiency syndrome (AIDS) adds a new twist to the dilemma of freedom versus order. Some health officials believe that AIDS, for which there is no known cure, is the greatest medical threat in the history of the United States. At the end of 1999, more than 733,000 cases of AIDS had been reported to the Centers for Disease Control, and some 430,000 of these patients (59 percent) had died.[22]

To combat the spread of the disease in the military, the Department of Defense began testing all applicants for the AIDS virus. Other government agencies have begun testing current employees. And some officials are calling for widespread mandatory testing within the private sector as well. Such programs are strongly opposed by those who believe they violate individual freedom. But those who are more afraid of the spread of AIDS than of an infringement on individual rights support aggressive government action to combat the disease.

The conflict between the values of freedom and order represents the original dilemma of government. In the abstract, people value both freedom and order; in real life, the two values inherently conflict. By definition, any policy that strengthens one value takes away from the other. The balance of freedom and order is an issue in enduring debates (whether to allow capital punishment) and contemporary challenges (how to deal with urban gang members who spray-paint walls; whether to allow art galleries to display sexually explicit photographs). And in a democracy, policy choices hinge on how much citizens value freedom and how much they value order.

The Modern Dilemma: Freedom Versus Equality

Popular opinion has it that freedom and equality go hand in hand. In reality, the two values usually clash when governments enact policies to promote social equality. Because social equality is a relatively recent government objective, deciding between policies that promote equality at the expense of freedom, and vice versa, is the modern dilemma of politics. Consider these examples:

- During the 1960s, Congress (through the Equal Pay Act) required employers to pay women and men the same rate for equal work. This legislation means that some employers are forced to pay women more than they would if their compensation policies were based on their free choice.
- During the 1970s, the courts ordered the busing of schoolchildren to achieve a fair distribution of blacks and whites in public schools. This action was motivated by concern for educational equality, but it also impaired freedom of choice.
- During the 1980s, some states passed legislation that went beyond the idea of equal pay for equal work to the more radical notion of pay

equity—equal pay for comparable work. Women had to be paid at a rate equal to men's even if they had different jobs, providing the women's jobs were of "comparable worth." For example, if the skills and responsibilities of a female nurse were found to be comparable to those of a male laboratory technician in the same hospital, the woman's salary and the man's salary would have to be the same.

- In the 1990s, Congress prohibited discrimination in employment, public services, and public accommodations on the basis of physical or mental disabilities. Under the 1990 Americans with Disabilities Act, businesses with twenty-five or more employees cannot pass over an otherwise qualified disabled person in employment or promotion, and new buses and trains have to be made accessible to them.

These examples illustrate the problem of using government power to promote equality. The clash between freedom and order is obvious, but the clash between freedom and equality is more subtle. Americans, who think of freedom and equality as complementary rather than conflicting values, often do not notice the clash. When forced to choose between the two, however, Americans are far more likely to choose freedom over equality than are people in other countries (see Compared with What? 1.2). The emphasis on equality over freedom was especially strong in the former Soviet Union, which guaranteed its citizens medical care, inexpensive housing, and other social services. Although the quality of the benefits was not much by Western standards, Soviet citizens experienced a sense of equality in shared deprivation. Indeed, there was such aversion to economic inequality that citizens' attitudes hindered economic development in a free market after the fall of the Soviet Union. As the director of the Moscow Arts Theater explained, "People are longing for the lost paradise—the lost Communist paradise."[23]

The conflicts among freedom, order, and equality explain a great deal of the political conflict in the United States. The conflicts also underlie the ideologies that people use to structure their understanding of politics.

IDEOLOGY AND THE SCOPE OF GOVERNMENT

People hold different opinions about the merits of government policies. Sometimes their views are based on self-interest. For example, most senior citizens vociferously oppose increasing their personal contributions to Medicare, the government program that defrays medical costs for the elderly, preferring to have all citizens pay for their coverage. Policies also are judged according to individual values and beliefs. Some people hold an assortment of values and beliefs that produce contradictory opinions on government policies. Others organize their opinions into a **political ideology**—a consistent set of values and beliefs about the proper purpose and scope of government.

political ideology
A consistent set of values and beliefs about the proper purpose and scope of government.

How far should government go to maintain order, provide public goods, and promote equality? In the United States (as in every other nation), citizens, scholars, and politicians have different answers. We can analyze their positions by referring to philosophies about the proper scope of government—the range of its permissible activities. Imagine a continuum. At one end is the belief that government should do everything; at the other is the belief that government should not exist. These extreme ideologies—

compared with what?

1.2 The Importance of Freedom and Equality as Political Values

Compared with citizens' views of freedom and equality in fifteen other nations, Americans value freedom more than others do. Respondents in each country were asked which of the following statements came closer to their own opinion:

- "I find that both freedom and equality are important. But if I were to make up my mind for one or the other, I would consider personal freedom more important, that is, everyone can live in freedom and develop without hindrance."
- "Certainly both freedom and equality are important. But if I were to make up my mind for one of the two, I would consider equality more important, that is, that nobody is underprivileged and that social class differences are not so strong."

Americans chose freedom by a ratio of nearly 3 to 1. No other nation showed such a strong preference for freedom, and citizens in four countries favored equality instead. When we look at this finding together with Americans' disdain for order (see Compared with What? 1.1), the importance of freedom as a political concept in the United States is clear.

Source: World Values Survey, 1990–1991. The tabulation was provided by Professor Ronald F. Inglehart, University of Michigan.

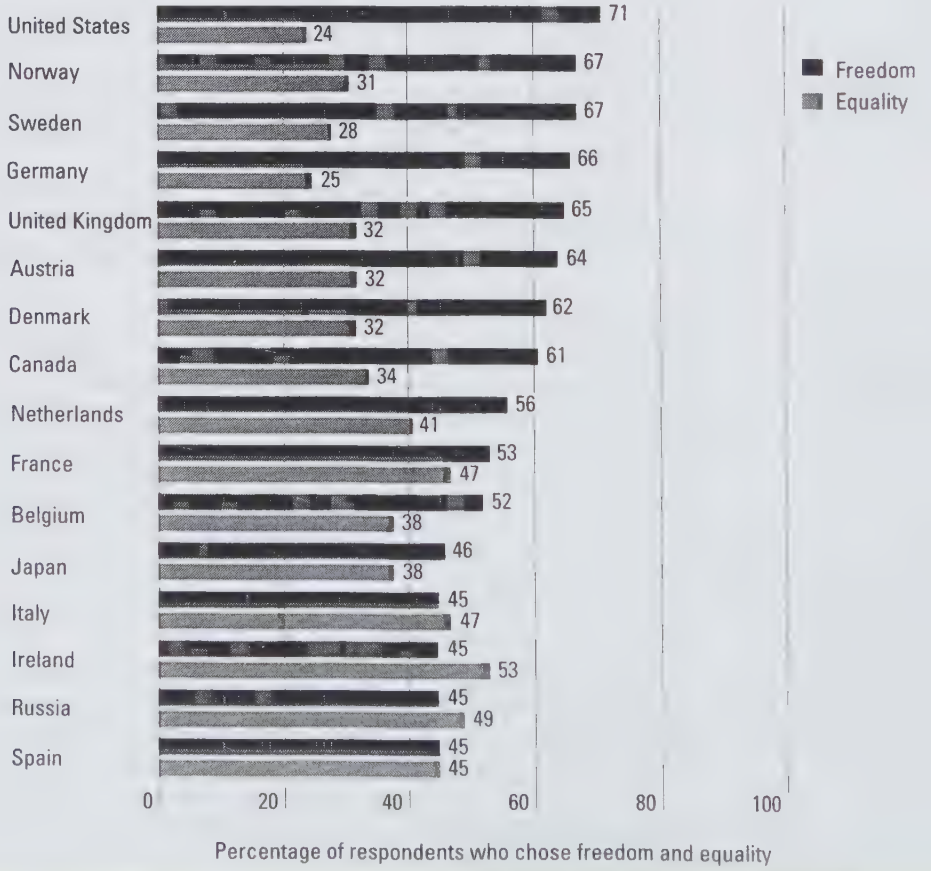
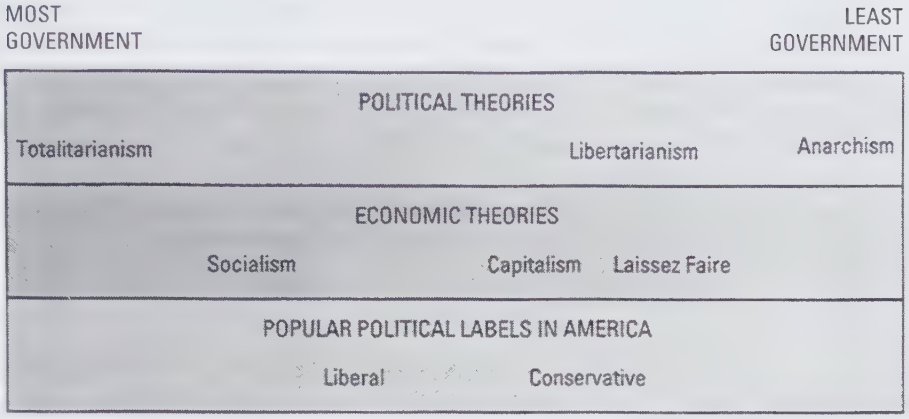


figure **1.1**

Ideology and the Scope of Government

We can classify political ideologies according to the scope of action that people are willing to allow government in dealing with social and economic problems. In this chart, the three rows map out various philosophical positions along an underlying continuum ranging from "most" to "least" government. Notice that conventional politics in the United States spans only a narrow portion of the theoretical possibilities for government action.

In popular usage, liberals favor a greater scope of government; conservatives want a narrower scope. But over time, the traditional distinction has eroded and now oversimplifies the differences between liberals and conservatives. See Figure 1.2 for a more discriminating classification of liberals and conservatives.



from the most government to the least government—and those that fall in between are shown in Figure 1.1.

Totalitarianism

totalitarianism
A political philosophy that advocates unlimited power for the government to enable it to control all sectors of society.

Totalitarianism is the belief that government should have unlimited power. A totalitarian government controls all sectors of society: business, labor, education, religion, sports, the arts. A true totalitarian favors a network of laws, rules, and regulations that guides every aspect of individual behavior. The object is to produce a perfect society serving some master plan for "the common good." Totalitarianism has reached its terrifying full potential only in literature and films (for example, George Orwell's *1984*), but several real societies have come perilously close to "perfection." One thinks of Germany under Hitler and the Soviet Union under Stalin. Not many people openly profess totalitarianism today, but the concept is useful because it anchors one side of our continuum.

Socialism

socialism
A form of rule in which the central government plays a strong role in regulating existing private industry and directing the economy, although it does allow some private ownership of productive capacity.

Whereas totalitarianism refers to government in general, **socialism** pertains to government's role in the economy. Like communism, socialism is an economic system based on Marxist theory. Under socialism (and communism), the scope of government extends to ownership or control of the basic industries that produce goods and services. These include communications, mining, heavy industry, transportation, and power. Although socialism favors a strong role for government in regulating private industry and directing the economy, it allows more room than communism does for private ownership of productive capacity.

Many Americans equate socialism with the communism practiced in the old closed societies of the Soviet Union and Eastern Europe. But there is a difference. Although communism in theory was supposed to result in a "withering away" of the state, communist governments in practice

tended toward totalitarianism, controlling not just economic life but both political and social life through a dominant party organization. Some socialist governments, however, practice **democratic socialism.** They guarantee civil liberties (such as freedom of speech and freedom of religion) and allow their citizens to determine the extent of the government's activity through free elections and competitive political parties. Outside the United States, socialism is not universally viewed as inherently bad. In fact, the governments of Britain, Sweden, Germany, and France, among other democracies, have at times since World War II been avowedly socialist. More recently, the formerly communist regimes of Eastern Europe have abandoned the controlling role of government in their economies in favor of elements of capitalism.

democratic socialism
A socialist form of government that guarantees civil liberties such as freedom of speech and religion. Citizens determine the extent of government activity through free elections and competitive political parties.

Capitalism

Capitalism also relates to the government's role in the economy. In contrast to both socialism and communism, **capitalism** supports free enterprise—private businesses operating without government regulation. Some theorists, most notably economist Milton Friedman, argue that free enterprise is necessary for free politics.[24] This argument, that the economic system of capitalism is essential to democracy, contradicts the tenets of democratic socialism. Whether it is valid depends in part on our understanding of democracy, a subject discussed in Chapter 2.

The United States is decidedly a capitalist country, more so than Britain or most other Western nations. Despite the U.S. government's enormous budget, it owns or operates relatively few public enterprises. For example, railroads, airlines, and television stations are privately owned in the United States; these businesses are frequently owned by the government in other countries. But our government does extend its authority into the economic sphere, regulating private businesses and directing the overall economy. American liberals and conservatives both embrace capitalism, but they differ on the nature and amount of government intervention in the economy that is necessary or desirable.

capitalism
The system of government that favors free enterprise (privately owned businesses operating without government regulation).

Libertarianism

Libertarianism opposes all government action except what is necessary to protect life and property. **Libertarians** grudgingly recognize the necessity of government but believe that it should be as limited as possible. For example, libertarians grant the need for traffic laws to ensure safe and efficient automobile travel. But they oppose as a restriction on individual actions laws that set a minimum drinking age, and they even oppose laws outlawing marijuana and other drugs. Libertarians believe that social programs that provide food, clothing, and shelter are outside the proper scope of government. Helping the needy, they insist, should be a matter of individual choice. Libertarians also oppose government ownership of basic industries; in fact, they oppose any government interven-tion in the economy. This kind of economic policy is called **laissez faire,** a French phrase that means "let (people) do (as they please)." Such an extreme policy extends beyond the free enterprise advocated by most capitalists.

Libertarians are vocal advocates of hands-off government, in both the social and the economic sphere. Whereas those Americans who favor a

libertarianism
A political ideology that is opposed to all government action except as necessary to protect life and property.

libertarians
Those who are opposed to using government to promote either order or equality.

laissez faire
An economic doctrine that opposes any form of government intervention in business.

broad scope of government action shun the description *socialist*, libertarians make no secret of their identity. The Libertarian Party ran candidates in every presidential election from 1972 through 2000. However, not one of these candidates won more than 1 million votes.

Do not confuse libertarians with liberals. The words are similar, but their meanings are quite different. *Libertarianism* draws on *liberty* as its root and means "absence of governmental constraint." In American political usage, *liberalism* evolved from the root word *liberal*. **Liberals** see a positive role for government in helping the disadvantaged. Over time, *liberal* has come to mean something closer to *generous*, in the sense that liberals (but not libertarians) support government spending on social programs. Libertarians find little benefit in any government social program.

liberals
Those who are willing to use government to promote freedom but not order.

Anarchism

Anarchism stands opposite totalitarianism on the political continuum. Anarchists oppose all government, in any form. As a political philosophy, **anarchism** values freedom above all else. Because all government involves some restriction on personal freedom (for example, forcing people to drive on one side of the road), a pure anarchist would object even to traffic laws. Like totalitarianism, anarchism is not a popular philosophy, but it does have adherents on the political fringes.

anarchism
A political philosophy that opposes government in any form.

Anarchists sparked the violence that disrupted the December 1999 meeting of the World Trade Organization (WTO) in Seattle (see Chapter 10). Labor unions protested the WTO meeting for failing to include labor rights on its agenda; environmental groups protested it for promoting economic development at the expense of the environment. But anarchists were against the WTO on *principle*—for concentrating the power of multinational corporations in a shadowy "world government." Discussing old and new forms of anarchy, Joseph Kahn said, "Nothing has revived anarchism like globalization."[25] When the World Bank held its August 2000 meeting in Prague, an anarchists' Web site promised to "Turn Prague into Seattle."[26] While anarchists were battling Czech police in Prague, anarchists back in Oregon were planning protests at the Democratic party convention in Los Angeles.[27] Although anarchism is not a popular philosophy, it is not merely a theoretical category.

★

"A" Is for Anarchism

Anarchism as a philosophy views government as an unnecessary evil used by the wealthy to exploit the poor. Scores of young anarchists gathered in Seattle in 1999, seeking to disrupt the meeting of the World Trade Organization.

Liberals and Conservatives: The Narrow Middle

As shown in Figure 1.1, practical politics in the United States ranges over only the central portion of the continuum. The extreme positions—totalitarianism and anarchism—are rarely argued in public debates. And in this era of distrust of "big government," few American politicians would openly advocate socialism (although one did in 1990 and won election to Congress as an independent candidate). On the other hand, almost 300 people ran for Congress in 2000 as candidates of the Libertarian Party. Although none won, American libertarians are sufficiently vocal to be heard in the debate over the role of government.

Still, most of that debate is limited to a narrow range of political thought. On one side are people commonly called *liberals*; on the other are *conservatives*. In popular usage, liberals favor more government, conserv-

atives less. This distinction is clear when the issue is government spending to provide public goods. Liberals favor generous government support for education, wildlife protection, public transportation, and a whole range of social programs. **Conservatives** want smaller government budgets and fewer government programs. They support free enterprise and argue against government job programs, regulation of business, and legislation of working conditions and wage rates.

conservatives
Those who are willing to use government to promote order but not equality.

But in other areas, liberal and conservative ideologies are less consistent. In theory, liberals favor government activism, yet they oppose government regulation of abortion. In theory, conservatives oppose government activism, yet they support government control of the publication of sexually explicit material. What's going on? Are American political attitudes hopelessly contradictory, or is something missing in our analysis of these ideologies today? Actually, something is missing. To understand the liberal and conservative stances on political issues, we have to look not only at the scope of government action but also at the purpose of government action. That is, to understand a political ideology, it is necessary to understand how it incorporates the values of freedom, order, and equality.

AMERICAN POLITICAL IDEOLOGIES AND THE PURPOSE OF GOVERNMENT

Much of American politics revolves around the two dilemmas just described: freedom versus order and freedom versus equality. The two dilemmas do not account for all political conflict, but they help us gain insight into the workings of politics and organize the seemingly chaotic world of political events, actors, and issues.

Can You Explain Why...
conservatives might favor *more* government than liberals?

Liberals Versus Conservatives: The New Differences

Liberals and conservatives are different, but their differences no longer hinge on the narrow question of the government's role in providing public goods. Liberals still favor more government and conservatives less, but this is no longer the critical difference between them. Today, that difference stems from their attitudes toward the purpose of government. Conservatives support the original purpose of government—maintaining social order. They are willing to use the coercive power of the state to force citizens to be orderly. They favor firm police action, swift and severe punishment for criminals, and more laws regulating behavior. Conservatives would not stop with defining, preventing, and punishing crime, however. They tend to want to preserve traditional patterns of social relations—the domestic role of women and the importance of religion in school and family life, for example.

Liberals are less likely than conservatives to want to use government power to maintain order. In general, liberals are more tolerant of alternative lifestyles—for example, homosexual behavior. Liberals do not shy away from using government coercion, but they use it for a different purpose—to promote equality. They support laws that ensure equal treatment of homosexuals in employment, housing, and education; laws that require the busing of schoolchildren to achieve racial equality; laws that force private businesses to hire and promote women and members of minority groups; laws that require public transportation to provide equal access to the disabled; and laws that order cities and states to reapportion

election districts so that minority voters can elect minority candidates to public office.

Conservatives do not oppose equality, but they do not value it to the extent of using the government's power to enforce equality. For liberals, the use of that power to promote equality is both valid and necessary.

A Two-Dimensional Classification of Ideologies

To classify liberal and conservative ideologies more accurately, we have to incorporate the values of freedom, order, and equality into the classification. We can do this using the model in Figure 1.2. It depicts the conflicting values along two separate dimensions, each anchored in maximum freedom at the lower left. One dimension extends horizontally from maximum freedom on the left to maximum order on the right. The other extends vertically from maximum freedom at the bottom to maximum equality at the top. Each box represents a different ideological type: libertarians, liberals, conservatives, and communitarians.[28]

Libertarians value freedom more than order or equality. (We will use this term for people who have libertarian tendencies but may not accept the whole philosophy.) In practical terms, libertarians want minimal government intervention in both the economic and the social sphere. For example, they oppose affirmative action and laws that restrict transmission of sexually explicit material.

Liberals value freedom more than order but not more than equality. Liberals oppose laws that ban sexually explicit publications but support affirmative action. Conservatives value freedom more than equality but would restrict freedom to preserve social order. Conservatives oppose affirmative action but favor laws that restrict pornography.

Finally, we arrive at the ideological type positioned at the upper right in Figure 1.2. This group values both equality and order more than freedom. Its members support both affirmative action and laws that restrict pornography. We will call this new group *communitarians*. The *Oxford English Dictionary* (1989) defines a communitarian as "a member of a community formed to put into practice communistic or socialistic theories." The term is used more narrowly in contemporary politics to reflect the philosophy of the Communitarian Network, a political movement founded by sociologist Amitai Etzioni.[29] This movement rejects both the liberal-conservative classification and the libertarian argument that "individuals should be left on their own to pursue their choices, rights, and self-interests."[30] Like liberals, Etzioni's communitarians believe that there is a role for government in helping the disadvantaged. Like conservatives, they believe that government should be used to promote moral values—preserving the family through more stringent divorce laws, protecting against AIDS through testing programs, and limiting the dissemination of pornography, for example.[31] Indeed, some observers have labeled President George W. Bush as a communitarian (see Chapter 12 on the presidency).

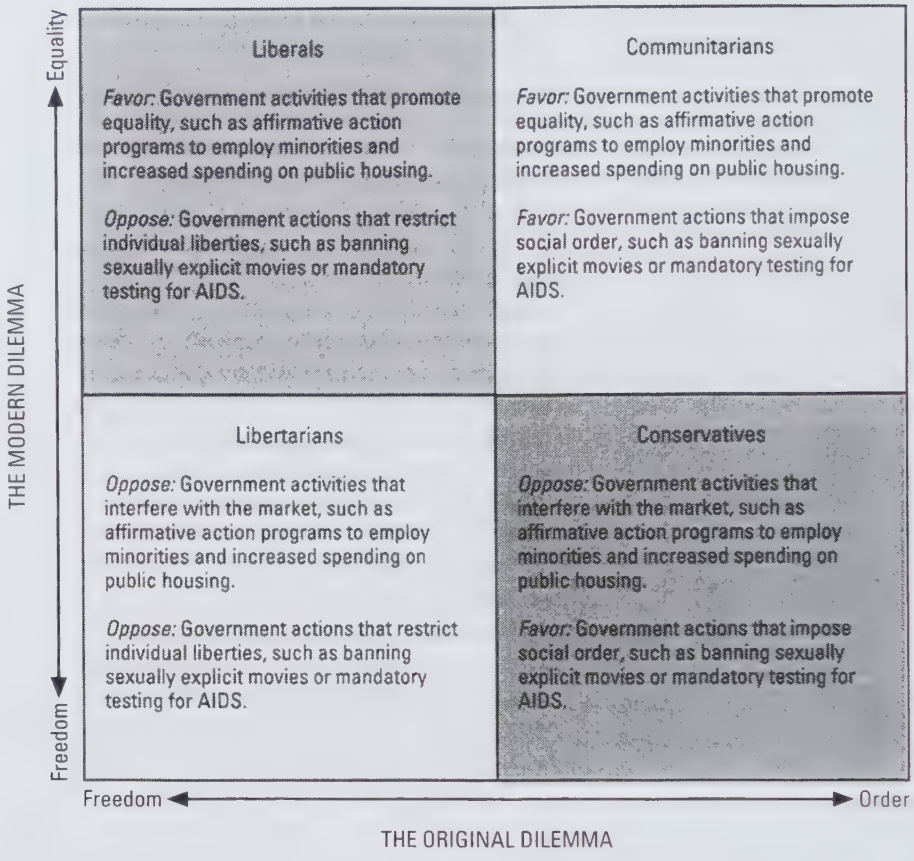
IDEAlog aks you to classify yourself in one of the four categories in Figure 1.2 and then asks twenty opinion questions to test your self-classification.

The Communitarian Network is not dedicated to big government, however. According to its platform, "The government should step in only to the extent that other social subsystems fail, rather than seek to replace them."[32] Nevertheless, in recognizing the collective nature of society, the Network's platform clearly distinguishes its philosophy from that of libertarianism:

figure 1.2

Ideologies: A Two-Dimensional Framework

The four ideological types are defined by the values they favor in resolving the two major dilemmas of government: How much freedom should be sacrificed in pursuit of order and equality, respectively? Test yourself by thinking about the values that are most important to you. Which box in the figure best represents your combination of values?


Liberals
Favor: Government activities that promote equality, such as affirmative action programs to employ minorities and increased spending on public housing.
Oppose: Government actions that restrict individual liberties, such as banning sexually explicit movies or mandatory testing for AIDS.
Communitarians
Favor: Government activities that promote equality, such as affirmative action programs to employ minorities and increased spending on public housing.
Favor: Government actions that impose social order, such as banning sexually explicit movies or mandatory testing for AIDS.
Libertarians
Oppose: Government activities that interfere with the market, such as affirmative action programs to employ minorities and increased spending on public housing.
Oppose: Government actions that restrict individual liberties, such as banning sexually explicit movies or mandatory testing for AIDS.
Conservatives
Oppose: Government activities that interfere with the market, such as affirmative action programs to employ minorities and increased spending on public housing.
Favor: Government actions that impose social order, such as banning sexually explicit movies or mandatory testing for AIDS.
Equality
Freedom
THE MODERN DILEMMA
Freedom
Order
THE ORIGINAL DILEMMA

It has been argued by libertarians that responsibilities are a personal matter, that individuals are to judge which responsibilities they accept as theirs. As we see it, responsibilities are anchored in community. Reflecting the diverse moral voices of their citizens, responsive communities define what is expected of people; they educate their members to accept these values; and they praise them when they do and frown upon them when they do not.[33]

communitarians
Those who are willing to use government to promote both order and equality.

Although it clearly embraces the Communitarian Network's philosophy, our definition of communitarian (small *c*) is broader and more in keeping with the dictionary definition. Thus, **communitarians** favor government programs that promote both order and equality, in keeping with socialist theory.[34]

By analyzing political ideologies on two dimensions rather than one, we can explain why people can seem to be liberal on one issue (favoring a broader scope of government action) and conservative on another (favoring less government action). The answer hinges on the purpose of a given gov-

ernment action: which value does it promote, order or equality? According to our typology, only libertarians and communitarians are consistent in their attitude toward the scope of government activity, whatever its purpose. Libertarians value freedom so highly that they oppose most government efforts to enforce either order or equality. Communitarians (in our usage) are inclined to trade freedom for both order and equality. Liberals and conservatives, on the other hand, favor or oppose government activity depending on its purpose. As you will learn in Chapter 5, large groups of Americans fall into each of the four ideological categories. Because Americans increasingly choose four different resolutions to the original and modern dilemmas of government, the simple labels of *liberal* and *conservative* no longer describe contemporary political ideologies as well as they did in the 1930s, 1940s, and 1950s.

SUMMARY

The challenge of democracy lies in making difficult choices—choices that inevitably bring important values into conflict. This chapter has outlined a normative framework for analyzing the policy choices that arise in the pursuit of the purposes of government.

The three major purposes of government are maintaining order, providing public goods, and promoting equality. In pursuing these objectives, every government infringes on individual freedom. But the degree of that infringement depends on the government's (and, by extension, its citizens') commitment to order and equality. What we have, then, are two dilemmas. The first—the original dilemma—centers on the conflict between freedom and order. The second—the modern dilemma—focuses on the conflict between freedom and equality.

Some people use political ideologies to help them resolve the conflicts that arise in political decision making. These ideologies define the scope and purpose of government. At opposite extremes of the continuum are totalitarianism, which supports government intervention in every aspect of society, and anarchism, which rejects government entirely. An important step back from totalitarianism is socialism. Democratic socialism, an economic system, favors government ownership of basic industries but preserves civil liberties. Capitalism, another economic system, promotes free enterprise. A significant step short of anarchism is libertarianism, which allows government to protect life and property but little else.

In the United States, the terms *liberal* and *conservative* are used to describe a narrow range toward the center of the political continuum. The usage is probably accurate when the scope of government action is being discussed. That is, liberals support a broader role for government than do conservatives. But when both the scope and the purpose of government are considered, a different, sharper distinction emerges. Conservatives may want less government, but not at the price of maintaining order. In other words, they are willing to use the coercive power of government to impose social order. Liberals, too, are willing to use the coercive powers of government, but for a different purpose—promoting equality.

It is easier to understand the differences among libertarians, liberals, conservatives, and communitarians and their views on the scope of government if the values of freedom, order, and equality are incorporated into the description of their political ideologies. Libertarians choose freedom over both order and equality. Communitarians are willing to sacrifice free-

dom for both order and equality. Liberals value freedom more than order and equality more than freedom. Conservatives value order more than freedom and freedom more than equality.

The concepts of government objectives, values, and political ideologies appear repeatedly in this book as we determine who favors what government action and why. So far, we have said little about how government should make its decisions. In Chapter 2, we complete our normative framework for evaluating American politics by examining the nature of democratic theory. There, we introduce two key concepts for analyzing how democratic governments make decisions.

★ Selected Readings

Ebenstein, William, and Edwin Fogelman. *Today's Isms: Socialism, Capitalism, Fascism, Communism, and Libertarianism.* 11th ed. Englewood Cliffs, N.J.: Prentice-Hall, 1999. This standard source describes the history of the five major "isms" and relates each to developments in contemporary politics. It is concise, informative, and readable.

Etzioni, Amitai. *The New Golden Rule: Community and Morality in a Democratic Society.* New York: Basic Books, 1996. Etzioni examines the balance between liberty and morality in government. He argues for basing order on moral commitments rather than law.

Murray, Charles. *What It Means to Be a Libertarian: A Personal Interpretation.* New York: Broadway Books, 1997. This brief book makes the case for limiting government and promoting personal freedom. Among the government functions that Murray would limit are the regulation of products and services, the development and regulation of energy, housing and urban development, and social security and Medicare programs.

Van Creveld, Martin. *The Rise and Decline of the State.* New York: Cambridge University Press, 1999. A thoughtful survey of the rise of the modern state in the mid–seventh century through what Van Creveld sees as its decline, beginning in 1975. He concludes that the international system is becoming more hierarchical, with more power accumulated in supranational institutions.

Internet Exercises

1. *Freedom versus order: The case of racial profiling*

Justice Talking is a public radio program, created by the Annenberg Public Policy Center at the University of Pennsylvania, designed to examine cases and controversies that appear before the nation's courts. Recently, Justice Talking addressed the issue of racial profiling and considered whether it constituted overt discrimination or a legitimate tool to stop crime.

- Go to the Justice Talking Web site at **<http://www.justicetalking.org/>**, and follow the site's link to an index of its past shows. There you will find the program entitled "Driving While Black: Racial Profiling on America's Highways."

- Listen to these two portions of the broadcast: Time 0:00–2:35 and 20:00–26:15. How is the controversy of racial profiling a modern-day illustration of the nation's original dilemma of freedom versus order?

2. *Freedom versus equality: The case of school vouchers*

Public school vouchers are one of the most controversial school reform issues on the political agenda today. Two groups that have opposing views on this issue are the National Education Association (NEA), and the Milton and Rose D. Friedman Foundation for School Choice.

- Go to the NEA's Web site at **http://www.nea.org/** and use the site's search function to locate a January 1999 issue paper entitled "Private School Vouchers." Read this short piece. Then go to the Friedman Foundation's page at **<http://www.friedmanfoundation.org/>**. Follow the link to "understanding school choice" to locate a series of frequently asked questions about school vouchers.

- How could a citizen who is against vouchers argue that vouchers sacrifice equality in an ill-fated attempt to promote individual freedom? How could a citizen who is for vouchers argue that opposing vouchers sacrifices freedom and is an ill-fated attempt to guarantee equality?

BUSINESS

Seventh Edition

William M. Pride
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College of Du Page

Being Ethical and Socially Responsible

It's not easy to set one standard that applies everywhere.

inside Business

Doing What's Legal and What's Right at Texas Instruments

More countries, more ethical questions. That was the challenge Texas Instruments (TI) faced as it expanded from its Texas headquarters to acquire companies and open operations in more than two dozen nations. A leading manufacturer of sophisticated computer chips and industrial control equipment, Texas Instruments (http://www.ti.com) had forty thousand plus employees in offices and factories stretched across four continents. Even as global sales pushed TI's revenues toward $10 billion, top management worried about maintaining universally high ethical standards while staying on the right side of local laws and customs. Carl Skooglund, TI's former vice president and director of ethics, observed that "it's not easy to set one standard that applies everywhere. We are facing a variety of issues that we really never had to think about before and a large part of the company's continued success in the global market depends on how we come to grips with these issues."

Still, TI wasn't starting from scratch in handling ethical issues. The company had published its first ethics booklet in 1961 and issued periodic updates as government regulations and business practices changed. However, as TI became involved with an ever-larger international network of suppliers, partners, competitors, distributors, customers, and mergers, employees at all levels were increasingly dealing with more complex ethical problems. Despite TI's traditional reliance on employee empowerment, management found that employees needed and wanted more support in handling ethical questions.

So TI created an Ethics Office, consisting of five senior corporate managers, to monitor and approve company-wide ethics plans, compliance, and disciplinary actions. TI's Ethics Director, reporting to the Ethics Office, was appointed to see that company policies and procedures stayed in line with high ethical standards. These policies and procedures covered various situations where ethical questions arise, including conflicts of interest, purchasing, and gifts. The company also launched a training program, "Decision Making in the New TI," to reinforce the vital role of corporate ethics and values in every business activity.

Even with the written code of ethics and training, TI realized that employees would sometimes be confronted with tough ethical problems that had to be resolved *quickly*. That's why the firm created the "TI Ethics Quick Test," seven principles printed on a convenient pocket-size card that employees could review whenever they needed to: (1) Is the action legal? (2) Does it comply with our values? (3) If you do it, will you feel bad? (4) How will it look in the newspaper? (5) If you know it's wrong, don't do it! (6) If you're not sure, ask. (7) Keep asking until you get an answer.

By reaffirming its long-time commitment to ethics and integrity throughout periods of global expansion and acquisitions, TI has earned stakeholder trust—and successfully boosted sales and profits within a dynamic and often uncertain business environment.[1]

Obviously, organizations like Texas Instruments want to be recognized as responsible corporate citizens. Such companies recognize the need to harmonize their operations with environmental demands and other vital social concerns. Not all firms, however, have taken steps to encourage a consideration of social responsibility and ethics in their decisions and day-to-day activities. Some managers still regard such business practices as a poor investment, in which the cost is not worth the return. Other managers—indeed, most managers—view the cost of these practices as a necessary business expense, similar to wages or rent.

Most managers today, like those at TI, are finding ways of balancing a growing agenda of socially responsible activities with the drive to generate profits. This also happens to be a good way for a company to demonstrate its values and to attract like-minded employees, customers, and stockholders. In a highly competitive business environment, an increasing number of companies are, like TI, seeking to set themselves apart by developing a reputation for ethical and socially responsible behavior.

We begin this chapter by defining *business ethics* and examining ethical issues. Next we look at the standards of behavior in organizations and how ethical behavior can be encouraged. We then turn to the topic of social responsibility. We compare and contrast two present-day models of social responsibility and present arguments for and against increasing the social responsibility of business. After that, we examine the major elements of the consumer movement. We discuss how social responsibility in business has affected employment practices amd environmental concerns. Finally, we consider the commitment, planning, and funding that go into a firm's program of social responsibility.

Business Ethics Defined

Ethics is the study of right and wrong and of the morality of the choices individuals make. An ethical decision or action is one that is "right" according to some standard of behavior. **Business ethics** is the application of moral standards to business situations. Recent court cases involving unethical behavior have helped make business ethics a matter of public concern. In one such case, Copley Pharmaceutical, Inc., pled guilty to federal criminal charges (and paid a $10.65 million fine) for falsifying drug manufacturers' reports to the Food and Drug Administration. In another much-publicized case, lawsuits against tobacco companies have led to $246 billion in settlements, although there has been only one class-action lawsuit filed on behalf of all smokers. That case, Engle vs. R J Reynolds, could cost tobacco companies an estimated $500 billion. In another similar effort, 28 cities and counties brought class-action suits against gun manufacturers in 1999. The suits seek to recover governments' expenses related to police protection, emergency services, and enforcement of local gun-control ordinances. Housing authorities around the country also are planning to file class-action suits against gun-makers, holding them liable for unnecessary and preventable handgun violence.[2]

Ethical Issues

Ethical issues often arise out of a business's relationship with investors, customers, employees, creditors, or competitors. Each of these groups has specific concerns and usually exerts pressure on the organization's managers. For example, investors want management to make sensible financial decisions that will boost sales, profits, and returns on their investments. Customers expect a firm's products to be safe, reliable, and reasonably priced. Employees demand to be treated fairly in hiring, promotion, and compensation decisions. Creditors require accounts to be paid on time and the accounting information furnished by the firm to be accurate. Competitors expect the firm's competitive practices to be fair and honest.

Guns, violence, and accountability. Federal, state, and local law enforcement authorities across the country are trying to make the gun industry more responsible. Here, Andrew Cuomo, Secretary of Housing and Urban Development, speaks to the press after a HUD meeting about taking legal action against gun manufacturers. The firearm manufacturers must design safer childproof guns, increase firearm safety, and pay compensatory and punitive damages caused by gun violence or face new national lawsuits.

Businesspeople face ethical issues every day, and some of these issues can be difficult to assess. Although some types of issues arise infrequently, others occur regularly. Let's take a closer look at several ethical issues.

Fairness and Honesty

Fairness and honesty in business are two important ethical concerns. Besides obeying all laws and regulations, businesspersons are expected to refrain from knowingly deceiving, misrepresenting, or intimidating others. The consequences of failing to do so can be expensive. Recently, for example, the German automobile firm of Bayerische Motoren Werke AG (BMW) received a court order to pay $2 million to a U.S. buyer because it had failed to inform him that his car paint had been damaged and retouched. Testimony showed that about one thousand other Americans had also unknowingly bought touched-up BMWs.[3]

In another case, Prudential Insurance Company agreed to pay a record fine of $35 million for misleading sales practices. This settlement followed a series of accusations of fraud and misrepresentation that have plagued the company for a decade.[4]

Organizational Relationships

A businessperson may be tempted to place his or her personal welfare above the welfare of others or the welfare of the organization. Relationships with customers and coworkers often create ethical problems. Unethical behavior in these areas includes taking credit for others' ideas or work, not meeting one's commitments in a mutual agreement, and pressuring others to behave unethically.

Conflict of Interest

Conflict of interest results when a businessperson takes advantage of a situation for his or her own personal interest rather than for the employer's interest. Such conflict may occur when payments and gifts make their way into business deals. A wise rule to remember is that anything given to a person that might unfairly influence that person's business decision is a bribe, and all bribes are unethical.

For example, Nortel Networks Corporation does not permit its employees, officers, and directors to accept any gifts, or to serve as directors or officers of any organization which might supply goods or services to Nortel Networks. However, Nortel employees may work part-time with firms that are not competitors, suppliers, or customers.

Communications

Business communications, especially advertising, can present ethical questions. False and misleading advertising is illegal and unethical, and it can infuriate customers. Sponsors of advertisements aimed at children must be especially careful to avoid misleading messages. Advertisers of health-related products must also take precautions to guard against deception when using such descriptive terms as "low fat," "fat free," and "light." In fact the Federal Trade Commission has issued guidelines on the use of these labels.

Factors Affecting Ethical Behavior

Is it possible for an individual with strong moral values to make ethically questionable decisions in a business setting? What factors affect a person's inclination to make either ethical or unethical decisions in a business organization? Although the answers to these questions are not entirely clear, three general sets of factors do appear to influence the standards of behavior in an organization. As shown in Figure 2.1, the sets consist of individual factors, social factors, and opportunity.

Several individual factors influence the level of ethical behavior in an organization. How much an individual knows about an issue is one factor: a decision maker with a greater amount of knowledge regarding a situation may take steps to avoid ethical problems, whereas a less-informed person may unknowingly take action that leads to an ethical quagmire. An individual's moral values and central, value-related attitudes also clearly influence his or her business behavior. Most people join organizations to accomplish personal goals. The types of personal goals an individual aspires to and the manner in which these goals are pursued have a significant impact on that individual's behavior in an organization.

A person's behavior in the workplace is, to some degree, determined by cultural norms, and these social factors vary from one culture to another. For example, in some countries it is acceptable and ethical for customs agents to receive gratuities for performing ordinary, legal tasks that are a part of their jobs, whereas in other countries these practices would be viewed as unethical and perhaps illegal. The actions and decisions of coworkers is another social factor believed to shape a person's sense of business ethics. For example, if your coworkers make long-distance telephone calls on company time and at company expense, you might view that behavior as acceptable and ethical because everyone does it. The moral values and attitudes of "significant others"—spouses, friends, and relatives, for instance—can also affect an employee's perception of what is ethical and unethical behavior in the workplace. Even the Internet presents new challenges for firms whose employees enjoy easy access to sites through convenient high-speed connections at work. An employee's behavior online can be viewed as offensive to coworkers and possibly lead to lawsuits against the firm, if employees conduct unethical behavior on controversial web sites not related to their job. As a result, research by Websense and the Center for Internet Studies reveal that nearly two out of three companies nationwide have disciplined employees, and nearly one out of three have fired employees for Internet misuse in the workplace.[5]

Opportunity refers to the amount of freedom an organization gives an employee to behave unethically if he or she makes that choice. In some organizations, certain company policies and procedures reduce the opportunity to be unethical. For example, at some fast-food restaurants, one employee takes your order and receives your payment and another fills the order. This procedure reduces the opportunity to be unethical because the person handling the money is not dispensing the product, and the person giving out the product is not handling the money. The existence of an ethical code and the importance management places on this code are other determinants of opportunity (codes of ethics are discussed in more detail in the next section). The

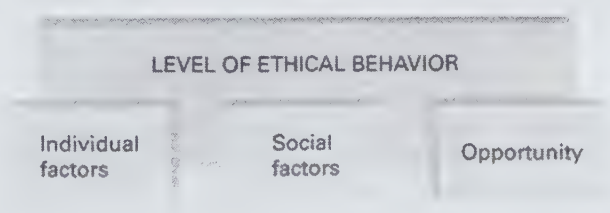

figure 2.1

Factors That Affect the Level of Ethical Behavior in an Organization

Source: Based on O. C. Ferrell and Larry Gresham, "A Contingency Framework for Understanding Ethical Decision Making in Marketing," *Journal of Marketing*, summer 1985, p. 89.

Business Ethics Around the World

WHEN U.S. COMPANIES CROSS NATIONAL borders to buy or sell, they quickly discover that local ethical and legal standards governing payoffs, pollution, and human rights can be oceans apart from U.S. standards. Remaining competitive while sidestepping ethical and legal problems is a major challenge—especially in the Internet age, when media reports of violations can reach investors and other stakeholders throughout the world in a matter of minutes.

Bribery and Corruption

In some countries, government officials, suppliers, and distributors routinely seek payoffs in exchange for completing transactions. However, under the Foreign Corrupt Practices Act, U.S. companies operating abroad cannot legally pay bribes, although they can make small payments under certain conditions. Even as more countries crack down on payoffs, Motorola and a few other U.S. businesses are using software to analyze invoices and payments and spot possible payoffs. Gifts from suppliers to U.S. companies are also a problem. Here's how United Technologies handles gifts: "Every year we write to vendors, saying that we don't want gifts, we want good service," says United Technologies' head ethics officer.

Pollution

Environmental controls in many countries are far less stringent than in the United States. Should U.S. companies comply with local environmental standards rather than applying the stronger U.S. standards? BP Amoco, like a growing number of global giants, has set minimum environmental-protection standards for all its operations, regardless of location. Still, maintaining these standards in every country can be difficult—especially when joint venture partners are involved. Rather than withdraw from global joint ventures, as some firms have done, BP Amoco is continuing to work with partners to improve compliance with standards.

Human Rights

U.S. positions on labor issues and other human rights issues often differ from the accepted positions in other countries—leaving U.S. companies caught in the middle. Nike, for example, has been criticized for tolerating low wages in some overseas factories that make its shoes and apparel. The company finally forced its Indonesian suppliers to raise wages, with Nike absorbing much of the increase. "They are independent businesses, but we take responsibility," says Dusty Kidd, Nike's director of labor practices.

degree of enforcement of company policies, procedures, and ethical codes is a major force affecting opportunity. When violations are dealt with consistently and firmly, the opportunity to be unethical is reduced.

Now that we have considered some of the factors believed to influence the level of ethical behavior in the workplace, let's explore what can be done to encourage ethical behavior and to discourage unethical behavior.

Encouraging Ethical Behavior

Most authorities agree there is room for improvement in business ethics. A more problematic question is, Can business be made more ethical in the real world? The majority opinion on this issue suggests that government, trade associations, and individual firms can indeed establish acceptable levels of ethical behavior.

The government can encourage ethical behavior by legislating more stringent regulations. But rules require enforcement, and the unethical businessperson frequently seems to "slip something by" without getting caught. Increased regulation may help, but it surely cannot solve the entire ethics problem.

Trade associations can and often do provide ethical guidelines for their members. These organizations, which operate within particular industries, are in an excellent position to exert pressure on members that stoop to questionable business practices. However, enforcement and authority vary from association to association. And because trade associations exist for the benefit of their members, harsh measures may be self-defeating.

Codes of ethics that companies provide to their employees are perhaps the most effective way to encourage ethical behavior. A **code of ethics** is a written guide to acceptable and ethical behavior as defined by an organization; it outlines uniform policies, standards, and punishments for violations. Because employees know what is expected of them and what will happen if they violate the rules, a code of ethics goes a long way toward encouraging ethical behavior. However, codes cannot possibly cover every situation. Companies must also create an environment in which employees recognize the importance of complying with the written code. Managers must provide direction by fostering communication, actively modeling and encouraging ethical decision making, and training employees to make ethical decisions.

During the 1980s, an increasing number of organizations created and implemented ethics codes. In a recent survey of *Fortune* 1000 firms, 93 percent of the

Examining Ethics

Beyond Ethical Codes

POSTING A CODE OF ETHICS IS JUST THE first step in encouraging ethical behavior. Studies show that many employees see unethical behavior such as sexual harassment and discrimination in their organizations but they fail to report these problems. Although such violations can result in legal action and damaging publicity, many organizations don't give employees all the tools and support they need to deal with ethical problems.

After formulating a code of ethics, companies should develop ethics training courses geared to the issues employees face on the job. "[Employees are] the ones who will be able to identify what problems exist and what things can be done better," stresses Jacquelyn Gates, vice president for ethics, compliance, and diversity at Verizon.

Lockheed Martin, for example, created a game called "The Ethics Challenge" based on real-life ethical problems confronting its employees. Managers and supervisors can select specific problems from the game when they train employees. "It was a pretty big gamble to take something as serious as ethics training and make it into a game," notes Tracy C. Dougherty, director of ethics communication and training. "But we wanted to so something unusual that stood out from all the other training that our employees get. Our sense is that it is an effective tool to increase ethics awareness."

In addition, companies must periodically review and update their ethics training programs to reflect changes in industry practices and government regulations. In the health-care field, for example, hospitals used to give doctors rewards for referring patients—a custom now considered both unethical and illegal. This is only one of several changes that Colorado's HealthONE hospital system incorporated into its ethics training program.

Issues to Consider

1. How can a company find out whether its employees are getting the message about ethics?
2. What can a company do to encourage employees to report suspected ethics violations?

figure 2.2

Defining Acceptable Behavior: TI's Code of Ethics

Texas Instruments encourages ethical behavior through an extensive training program and a written code of ethics and shared values.

TEXAS INSTRUMENTS CODE OF ETHICS

"One of TI's greatest strengths is its values and ethics. We had some early leaders who set those values as the standard for how they lived their lives. And it is important that TI grew that way. It's something that we don't want to lose. At the same time, we must move more rapidly. But we don't want to confuse that with the fact that we're ethical and we're moral. We're very responsible, and we live up to what we say."

Tom Engibous, President and CEO
Texas Instruments, 1997

We Respect and Value People By:

Treating others as we want to be treated.

- Exercising the basic virtues of respect, dignity, kindness, courtesy and manners in all work relationships.
- Recognizing and avoiding behaviors that others may find offensive, including the manner in which we speak and relate to one another and the materials we bring into the workplace, both printed and electronically.
- Respecting the right and obligation of every TIer to resolve concerns relating to ethics questions in the course of our duties without retribution and retaliation.
- Giving all TIers the same opportunity to have their questions, issues and situations fairly considered while understanding that being treated fairly does not always mean that we will all be treated the same.
- Trusting one another to use sound judgment in our use of TI business and information systems.
- Understanding that even though TI has the obligation to monitor its business information systems activity, we will respect privacy by prohibiting random searches of individual TIers' communications.
- Recognizing that conduct socially and professionally acceptable in one culture and country may be viewed differently in another.

We Are Honest By:

Representing ourselves and our intentions truthfully.

- Offering full disclosure and withdrawing ourselves from discussions and decisions when our business judgment appears to be in conflict with a personal interest.
- Respecting the rights and property of others, including their intellectual property. Accepting confidential or trade secret information only after we clearly understand our obligations as defined in a nondisclosure agreement.
- Competing fairly without collusion or collaboration with competitors to divide markets, set prices, restrict production, allocate customers or otherwise restrain competition.
- Assuring that no payments or favors are offered to influence others to do something wrong.
- Keeping records that are accurate and include all payments and receipts.
- Exercising good judgment in the exchange of business courtesies, meals and entertainment by avoiding activities that could create even the appearance that our decisions could be compromised.
- Refusing to speculate in TI stock through frequent buying and selling or through other forms of speculative trading.

Source: Courtesy of Texas Instruments.

companies that responded reported having a formal code of ethics. Some companies are now even taking steps to strengthen their codes. For example, to strengthen its accountability, the Healthcare Financial Management Association recently revised its code to designate contact persons who handle reports of ethics violations, to clarify how its board of directors should deal with violations of business ethics, and to guarantee a fair hearing process. S.C. Johnson & Son, makers of Pledge, Drano, Windex, and many other household products, is another firm that recognizes it must behave in ways the public perceives as ethical; its code includes expectations for employees and its commitment to consumers, the community, and society in general. Included in the

ethics code of electronics giant Texas Instruments are issues relating to policies and procedures; laws and regulations; relationships with customers, suppliers, and competitors; conflicts of interest; handling of proprietary information; and code enforcement. (see Figure 2.2.).

Assigning an ethics officer who coordinates ethical conduct gives employees someone to consult if they aren't sure of the right thing to do. An ethics officer meets with employees and top management to provide ethical advice, establishes and maintains an anonymous confidential service to answer questions about ethical issues, and takes action on ethics-code violations.

Sometimes, even employees who want to act ethically may find it difficult to do so. Unethical practices can become ingrained in an organization. Employees with high personal ethics may then take a controversial step called whistle blowing. **Whistle blowing** is informing the press or government officials about unethical practices within one's organization. Whistle blowing could have averted disaster and prevented needless deaths in the *Challenger* space-shuttle disaster, for example. How could employees have known about life-threatening problems and let them pass? Whistle blowing, on the other hand, can have serious repercussions for employees: those who "blow whistles" sometimes lose their jobs.

When firms set up anonymous hotlines to handle ethically questionable situations, employees may actually be more likely to engage in whistle blowing. When firms instead create an environment that educates employees and nurtures ethical behavior, fewer ethical problems arise, and ultimately the need for whistle blowing is greatly reduced.

It is difficult for an organization to develop ethics codes, policies, and procedures to deal with all relationships and every situation. When no company policy or procedures exists or applies, a quick test to determine if a behavior is ethical is to see if others—coworkers, customers, suppliers—approve of it. Ethical decisions will always withstand scrutiny. Openness and communication about choices will often build trust and strengthen business relationships. Table 2.1 provides some general guidelines for making ethical decisions.

table 2.1 Guidelines for Making Ethical Decisions

1. **Listen and learn.**
   Recognize the problem or decision-making opportunity that confronts your company, team, or unit. Don't argue, criticize, or defend yourself—keep listening and reviewing until you are sure you understand others.
2. **Identify the ethical issues.**
   Examine how coworkers and consumers are affected by the situation or decision at hand. Examine how you feel about the situation and understand the viewpoint of those involved in the decision or in the consequences of the decision.
3. **Create and analyze options.**
   Try to put aside strong feelings such as anger or desire for power and prestige and come up with as many alternatives as possible before developing an analysis. Ask everyone involved for ideas about which options offer the best long-term results for you and the company. Which option will increase your self-respect even if, in the long run, things don't work out the way you hope?
4. **Identify the best option from your point of view.**
   Consider it and test it against some established criteria, such as respect, understanding, caring, fairness, honesty, and openness.
5. **Explain your decision and resolve any differences that arise.**
   This may require neutral arbitration from a trusted manager or taking "time out" to reconsider, consult, or exchange written proposals before a decision is reached.

Source: Tom Rusk with D. Patrick Miller, "Doing the Right Thing," *Sky* Delta Airlines, Aug. 1993, pp. 18–22.

Social Responsibility

Social responsibility is the recognition that business activities have an impact on society and the consideration of that impact in business decision making. Obviously, social responsibility costs money. It is perhaps not so obvious—except in isolated cases—that social responsibility is also good business. Customers eventually find out which firms are acting responsibly and which are not. And, just as easily as they cast their dollar votes for a product produced by a company that is socially responsible, they can vote against the firm that is not.

Consider the following examples of organizations that are attempting to be socially responsible:

- Union Carbide Corporation, a worldwide chemical company, recognizes that good corporate citizenship is essential to its success. The firm encourages and supports community involvement through a number of programs. For example, the Union Carbide Foundation, a $20 million charitable trust, was established to enhance the corporation's commitment to be an involved citizen in the communities where its employees work and live. The foundation makes grants in three primary areas: education, diversity, and environmental protection. One of the foundation's programs sponsors teachers attending Keystone Science School where they learn the best ways to teach environmental science to middle and high school students. In Kanawha County, West Virginia, schools, support of the Bold Education Achievement through Math and Science (BEAMS) program resulted in an increased number of students taking elective high school and college math and science courses. At Boston University's Center on Work and Family, a grant helps professors study effects of the nation's changing workplace demographics. As an organization, Union Carbide applies the same dedication to communities as it does to its relationships with its customers and employees. Union Carbide recognizes that its future success depends on developing strong relationships with all three audiences.[6]
- During the past one hundred years, AT&T has built a tradition of supporting education, health and human services, the environment, public policy, and the arts in communities it serves. In 1999, the AT&T Foundation donated $45 million to nonprofit organizations in communities throughout the United States and around the world. Also included in the AT&T Foundation are AT&T Cares, a company-wide program through which employees volunteered more than 400,000 hours of community service in 1999, and the AT&T Learning Network, an online program connecting teachers, schools, and parents to the technology tools they need to help improve teaching and learning. Since 1911, AT&T has been a sponsor of the Telephone Pioneers of America, the world's largest, industry-based volunteer organization consisting of nearly 800,000 employees and retirees from the telecommunications industry.[7]
- In a week-long Habitat for Humanity homebuilding project in Manila, the Philippines, more than thirty Dow Chemical Company employees volunteered their time and talent to construct new homes for the poor. Dow completed construction of four new classrooms to expand the Herbert Dow School in Guaruja, Brazil, to add space for increasing enrollment. The school now accommodates 720 students.[8]
- The U.S. based Arthur Andersen LLP Foundation (Arthur Andersen is one of the Big Five accounting firms) supports higher-education programs with a special emphasis on business education. It offers special support for nonprofit organizations that assist individuals who may not have equal access to educational opportunities. In addition, the Foundation matches gifts made by its partners and employees to their alma maters. In 1999, these funds exceeded $4 million. Also in 1999 *Working Mother* magazine recognized the firm as one of the "100 Best Companies for Working Mothers" for its efforts to help parents balance the challenges of career and family.[9]

- ConAgra, Inc., America's second largest food company, developed the Feeding Children Better program to attack childhood hunger. Through an innovative partnership between ConAgra, America's Second Harvest, (the nation's largest domestic charitable hunger relief organization), and Tufts University Center on Hunger and Poverty, the company made a multimillion dollar commitment to help solve the problem. According to Bruce Rohde, chairman and chief executive officer of ConAgra, Inc., the Feeding Children Better program is a strategic approach to improve the charitable food distribution system in the United States. As a leading food company, ConAgra has a unique ability to make an impact on childhood hunger.[10]
- The Shell Oil Company Foundation is one of the nation's largest company-sponsored foundations. Created in 1953, the Foundation is funded by donations from Shell Oil Company and its subsidiaries. The Foundation contributes only to nonprofit organizations in the United States, and supports a broad range of charitable endeavors in health and human services, culture and the arts, and other community activities. For example, in 1998, the Shell Houston Open golf tournament donated a record $2.6 million to local children's charities. Since Shell assumed the sponsorship of this tournament in 1992, more than $10 million has been donated to charities. In addition, the Foundation funds university programs, including Doctoral Fellowships, Faculty Career Initiation Funds, Career Counseling Grants, Matching Gifts, and secondary education.[11]
- The General Electric Company employees and the GE Fund have supported 120 United Way campaigns with more than $20 million. GE employees and retirees support United Way agencies by building playgrounds, collecting supplies for food banks, renovating homeless shelters and serving as Big Brothers and Big Sisters. Through herSource.com, GE Medical Systems provides comprehensive breast cancer information helping women make more informed decisions, raise awareness, and drive home the importance of early detection. Furthermore, the GE Fund invented the corporate matching gift program, now used by more than 1,000 corporations worldwide. Since 1954, when the GE Fund began matching employee and retiree contributions, companies have donated more than $2 billion in matching gifts to colleges, universities and other educational institutions.

Giving back. Social responsibility may cost money, but it is also good business. Margaret McEntire, who started Candy Bouquets in her garage, sets aside 10 percent of profits for employees' tuition. Now she wants Congressional help in donating her franchises to inner-city operators.

GE and its employees have made a strong commitment to their communities. Whether it is volunteering over one million hours of annual service to young people, supporting innovative programs in education, or helping provide community service, the GE people are making a difference on a global scale. GE, its employees, the GE Fund, and GE Elfun (a global organization of GE employees

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and retirees) contribute more that $90 million annually to support education, the arts, the environment and human service organizations worldwide.[12]

These are just a few illustrations from the long list of companies that attempt to behave in socially responsible ways. In general, people are more likely to want to work for and buy from such organizations.

The Evolution of Social Responsibility in Business

Business is far from perfect in many respects, but its record of social responsibility today is much better than in past decades. In fact, present demands for social responsibility have their roots in outraged reactions to the abusive business practices of the early 1900s.

During the first quarter of the twentieth century, businesses were free to operate pretty much as they chose. Government protection of workers and consumers was minimal. As a result, people either accepted what business had to offer or they did without. Working conditions were often deplorable by today's standards. The average workweek in most industries exceeded sixty hours, no minimum-wage law existed, and employee benefits were almost nonexistent. Work areas were crowded and unsafe, and industrial accidents were the rule rather than the exception. To improve working conditions, employees organized and joined labor unions. But during the early 1900s, businesses—with the help of government—were able to use court orders, brute force, and even the few existing antitrust laws to defeat union attempts to improve working conditions.

During this period, consumers were generally subject to the doctrine of **caveat emptor,** a Latin phrase meaning "let the buyer beware." In other words, "what you see is what you get," and if it's not what you expected, too bad. Although victims of unscrupulous business practices could take legal action, going to court was very expensive and consumers rarely won their cases. Moreover, no consumer groups or government agencies existed to publicize their consumers' grievances or to hold sellers accountable for their actions.

table 2.2 **Early Government Regulations That Affected American Business**

Government Regulation	Major Provisions
Interstate Commerce Act (1887)	First federal act to regulate business practices; provided regulation of railroads and shipping rates
Sherman Antitrust Act (1890)	Prevented monopolies or mergers where competition was endangered
Pure Food and Drug Act (1906)	Established limited supervision of interstate sale of food and drugs
Meat Inspection Act (1906)	Provided for limited supervision of interstate sale of meat and meat products
Federal Trade Commission Act (1914)	Created the Federal Trade Commission to investigate illegal trade practices
Clayton Antitrust Act (1914)	Eliminated many forms of price discrimination that gave large businesses a competitive advantage over smaller firms

Prior to the 1930s, most people believed that competition and the action of the marketplace would in time correct abuses. Government therefore became involved in day-to-day business activities only in cases of obvious abuse of the free-market system. Six of the more important business-related federal laws passed between 1887 and 1914 are described in Table 2.2. As you can see, these laws were aimed more at encouraging competition than at correcting abuses, although two of them did deal with the purity of food and drug products.

The collapse of the stock market on October 29, 1929, triggered the Great Depression and years of dire economic problems for the United States. Factory production fell by almost one-half, and up to 25 percent of the nation's work force was unemployed. Before long, public pressure mounted for government to "do something" about the economy and about worsening social conditions.

Soon after Franklin Roosevelt was inaugurated as president in 1933, he instituted programs to restore the economy and to improve social conditions. Laws were passed to correct what many viewed as the monopolistic abuses of big business, and various social services were provided for individuals. These massive federal programs became the foundation for increased government involvement in the dealings between business and society.

As government involvement has increased, so has everyone's awareness of the social responsibility of business. Today's business owners are concerned about the return on their investment, but at the same time most of them demand ethical behavior from employees. In addition, employees demand better working conditions, and consumers want safe, reliable products. Various advocacy groups echo these concerns and also call for careful consideration of our earth's delicate ecological balance. Managers must therefore operate in a complex business environment—one in which they are just as responsible for their managerial actions as for their actions as individual citizens. Interestingly, today's high technology and Internet-based firms fare relatively well when it comes to environmental issues, worker conditions, the representation of minorities and women in upper management, animal testing, and charitable donations. According to the New York watch-group called the *Council on Economic Priorities*, which examines more than seven hundred of the country's largest companies annually, these new economy firms tend to rate better than average but are not immune from criticism.[13]

Using the Internet

The Business for Social Responsibility Organization web site provides a good overview of business ethics and proper social behavior. Be sure to explore the Global Business Responsibility Resource Center, the organization's gateway to useful reports, research, and links to related sites. **http://www.bsr.org/.**

Two Views of Social Responsibility

Government regulation and public awareness are *external* forces that have increased the social responsibility of business. But business decisions are made *within* the firm—and, there, social responsibility begins with the attitude of management. Two contrasting philosophies, or models, define the range of management attitudes toward social responsibility.

The Economic Model

According to the traditional concept of business, a firm exists to produce quality goods and services, earn a reasonable profit, and provide jobs. In line with this concept, the **economic model of social responsibility** holds that society will benefit most when business is left alone to produce and market profitable products that society needs. The economic model has its origins in the eighteenth century, when businesses were owned primarily by entrepreneurs or owner-managers. Competition was vigorous among small firms, and short-run profits and survival were the primary concerns.

Social Responsibility Goes to School

SOCIAL RESPONSIBILITY CAN TAKE MANY forms—including flying lessons. Through Young Eagles, underwritten by S.C. Johnson, Phillips Petroleum, Lockheed Martin, Jaguar, and other corporations, 22,000 volunteer pilots have taken a half million youngsters on free flights designed to teach flying basics and inspire excitement about flying careers. Young Eagles is just one of a growing number of education projects undertaken by businesses building solid records as good corporate citizens.

Education programs often link social responsibility with corporate self-interest. For example, Bayer and Merck, two major pharmaceuticals firms, promote science education as a way of enlarging the pool of future employees. Students who visit the Bayer Science Forum in Elkhart, Indiana, work alongside scientists conducting a variety of experiments. And workshops created by the Merck Institute for Science Education show teachers how to put scientific principles into action through hands-on experiments.

Exploring Business

Computer giant Hewlett-Packard promotes science and technology education by pairing students with employees who serve as mentors by e-mail for class projects. As many as 1,500 employees are corresponding with middle school and high school students to discuss projects as diverse as building a bicycle pump or investigating computer careers. "We're investing in our own future," comments Marsh Faber, Hewlett-Packard's education marketing manager for general-purpose products.

Businesses around the world see education projects as a way to make a difference in the markets they serve. As one example, Natura Cosmeticos, a Brazilian cosmetics firm, has teamed up with the Abrinq Foundation for Children's Rights to fund dozens of programs that boost elementary school students' self-confidence and skills. In addition, the firm's "Pedagogic Journeys" project supports teacher training for new schools in rural areas. As another example, Japan-based Toyota is sponsoring teacher grants in the United States to promote mathematics and science education. Whether they're teaching flying, science, or self-confidence, all these education projects are giving corporations the opportunity to showcase their commitment to social responsibility in a very tangible way.

To the manager who adopts this traditional attitude, social responsibility is someone else's job. After all, stockholders invest in a corporation to earn a return on their investment, not because the firm is socially responsible, and the firm is legally obligated to act in the economic interest of its stockholders. Moreover, profitable firms pay federal, state, and local taxes that are used to meet the needs of society. Thus, managers who concentrate on profit believe they fulfill their social responsibility indirectly, through the taxes paid by their firms. As a result, social responsibility becomes the problem of government, various environmental groups, charitable foundations, and similar organizations.

The Socioeconomic Model

In contrast, some managers believe they have a responsibility not only to stockholders but also to customers, employees, suppliers, and the general public. This broader view is referred to as the **socioeconomic model of social responsibility.** It places emphasis not only on profits but also on the impact of business decisions on society.

Recently, increasing numbers of managers and firms have adopted the socioeconomic model, and they have done so for at least three reasons. First, business is dominated by the corporate form of ownership, and the corporation is a creation of society. If a corporation doesn't perform as a good citizen, society can and will demand changes. Second, many firms have begun to take pride in their social responsibility records, among them Starbucks Coffee, Hewlett-Packard, Colgate-Palmolive, and Coca-Cola. Each of these companies is a winner of a Corporate Conscience Award in the areas of environmental concern, responsiveness to employees, equal opportunity, and community involvement. And, of course, many other corporations are much more socially responsible today than they were ten years ago. Third, many businesspeople believe it is in their best interest to take the initiative in this area. The alternative may be legal action brought against the firm by some special-interest group; in such a situation, the firm may lose control of its activities.

The Pros and Cons of Social Responsibility

Business owners, managers, customers, and government officials have debated the pros and cons of the economic and socioeconomic models for years. Each side seems to have four major arguments to reinforce its viewpoint.

Arguments for Increased Social Responsibility Proponents of the socioeconomic model maintain that a business must do more than simply seek profits. To support their position, they offer the following arguments:

1. Because business is a part of our society, it cannot ignore social issues.
2. Business has the technical, financial, and managerial resources needed to tackle today's complex social issues.
3. By helping resolve social issues, business can create a more stable environment for long-term profitability.
4. Socially responsible decision making by firms can prevent increased government intervention, which would force businesses to do what they fail to do voluntarily.

These arguments are based on the assumption that a business has a responsibility not only to stockholders but also to customers, employees, suppliers, and the general public.

Arguments against Increased Social Responsibility Opponents of the socioeconomic model argue that business should do what it does best: earn a profit by manufacturing and marketing products that people want. Those who support this position argue as follows:

1. Business managers are primarily responsible to stockholders, so management must be concerned with providing a return on owners' investments.
2. Corporate time, money, and talent should be used to maximize profits, not to solve society's problems.
3. Social problems affect society in general, so individual businesses should not be expected to solve these problems.
4. Social issues are the responsibility of government officials who are elected for that purpose and who are accountable to the voters for their decisions.

These arguments are obviously based on the assumption that the primary objective of business is to earn profits and that government and social institutions should deal with social problems.

Table 2.3 compares the economic and socioeconomic viewpoints in terms of business emphasis. Today few firms are either purely economic or purely socioeconomic in outlook; most have chosen some middle ground between the two extremes. However, our society generally seems to want—and even to expect—some degree of social

table 2.3 A Comparison of the Economic and Socioeconomic Models of Social Responsibility as Implemented in Business

Economic Model Primary emphasis is on			Socioeconomic Model Primary emphasis is on
1. Production	M	G	1. Quality of life
2. Exploitation of natural resources	I	R	2. Conservation of natural resources
3. Internal, market-based decisions	D	O	3. Market-based decisions, with some community controls
4. Economic return (profit)	D	U	4. Balance of economic return and social return
5. Firm's or manager's interest	L	N	5. Firm's and community's interests
6. Minor role for government	E	D	6. Active government involvement

Source: Adapted from Keith Davis, William C. Frederick, and Robert L. Blomstrom, *Business and Society: Concepts and Policy Issues* (New York: McGraw-Hill, 1980), p. 9. Used by permission of McGraw-Hill Book Company.

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responsibility from business. Thus, within this middle ground, businesses are leaning toward the socioeconomic view. In the next several sections, we look at some results of this movement in four specific areas: consumerism, employment practices, concern for the environment, and implementation of social responsibility programs.

Consumerism

Consumerism consists of all activities undertaken to protect the rights of consumers. The fundamental issues pursued by the consumer movement fall into three categories: environmental protection, product performance and safety, and information disclosure. Although consumerism has been with us to some extent since the early nineteenth century, the consumer movement became stronger in the 1960s. It was then that President John F. Kennedy declared that the consumer was entitled to a new "bill of rights."

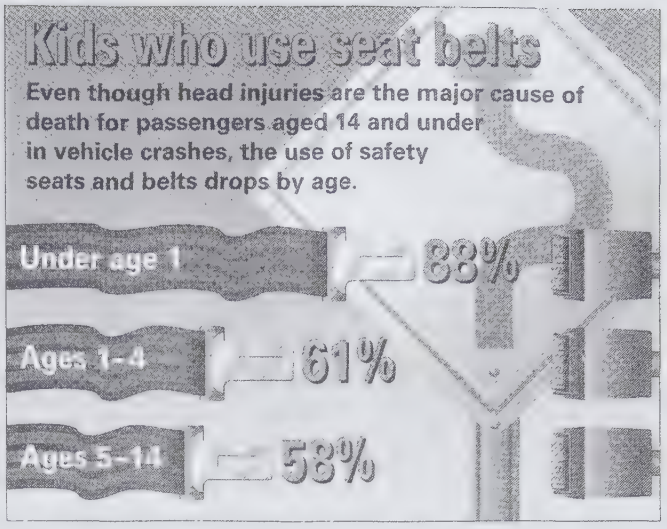
The Six Basic Rights of Consumers

President Kennedy's consumer bill of rights asserted that consumers have a right to safety, to be informed, to choose, and to be heard. Two additional rights added in the last decade are the right to consumer education and to courteous service. These six rights are the basis of much of the consumer-oriented legislation that has been passed during the last forty years. These rights also provide an effective outline of the objectives and accomplishments of the consumer movement.

The Right to Safety The consumers' right to safety means that the products they purchase must be safe for their intended use, must include thorough and explicit directions for proper use, and must be tested by the manufacturer to ensure product quality and reliability. There are several reasons why American business firms must be concerned about product safety. Federal agencies such as the Food and Drug Administration and the Consumer Product Safety Commission have the power to force businesses that make or sell defective products to take corrective actions. Such actions include offering refunds, recalling defective products, issuing public warnings, and reimbursing consumers—all of which can be expensive. Business firms should also be aware that consumers and the government have been winning an increasing number of product-liability lawsuits against sellers of defective products. Moreover, the amount of the awards in these suits has been steadily increasing. Fearing the outcome of numerous lawsuits filed around the nation, tobacco giants Philip Morris and R. J. Reynolds, which for decades had denied that cigarettes cause illness, began negotiating in 1997 with state attorneys general, plaintiffs' lawyers, and antismoking activists. The tobacco giants proposed sweeping curbs on their sales and advertising practices and the payment of

You have a right to know. The government-mandated Surgeon General's warning on tobacco products is one way the right to be informed is ensured.

hundreds of billions of dollars in compensation. Yet another major reason for improving product safety is the consumer's demand for safe products. People will simply stop buying a product they believe is unsafe or unreliable.


Kids who use seat belts
Even though head injuries are the major cause of death for passengers aged 14 and under in vehicle crashes, the use of safety seats and belts drops by age.
Under age 1
88%
Ages 1–4
61%
Ages 5–11
58%

Source: Copyright 2000, USA TODAY. Reprinted with permission.

The Right to Be Informed The right to be informed means that consumers must have access to complete information about a product before they buy it. Detailed information about ingredients and nutrition must be provided on food containers, information about fabrics and laundering methods must be attached to clothing, and lenders must disclose the true cost of borrowing the money they make available to customers who purchase merchandise on credit.

In addition, manufacturers must inform consumers about the potential dangers of using their products. Manufacturers that fail to provide such information can be held responsible for personal injuries suffered because of their products. For example, Maytag provides customers with a lengthy booklet that describes how they should use an automatic clothes washer. Sometimes such warnings seem excessive, but they are necessary if user injuries (and resulting lawsuits) are to be avoided.

The Right to Choose The right to choose means that consumers must have a choice of products, offered by different manufacturers and sellers, to satisfy a particular need. The government has done its part by encouraging competition through antitrust legislation. The greater the competition, the greater the choice available to consumers.

Competition and the resulting freedom of choice provide additional benefits for customers by reducing prices. For example, when electronic calculators were initially introduced, they cost over $200. Thanks to intense competition and technological advancements, calculators today can be purchased for less than $10.

The Right to Be Heard This fourth right means that someone will listen and take appropriate action when customers complain. Actually, management began to listen to consumers after World War II, when competition between businesses that manufactured and sold consumer goods increased. One way firms got a competitive edge was to listen to consumers and provide the products they said they wanted and needed. Today businesses are listening even more attentively, and many larger firms have consumer relations departments that can be easily contacted via toll-free phone numbers. Other groups listen, too. Most large cities and some states have consumer affairs offices to act on citizens' complaints.

Additional Consumer Rights In 1975 President Gerald Ford added to the consumer bill of rights the right to consumer education, which entitles people to be fully informed about their rights as consumers. In 1994 President Bill Clinton added a sixth right: the right to service, which entitles consumers to convenience, courtesy, and responsiveness from manufacturers and sellers of consumer products.

Major Consumerism Forces

The major forces in consumerism are individual consumer advocates and organizations, consumer education programs, and consumer laws.

Consumer advocates, such as Ralph Nader, take it upon themselves to protect the rights of consumers. They band together into consumer organizations, either

independently or under government sponsorship. Some organizations, such as the National Consumers' League and the Consumer Federation of America, operate nationally, whereas others are active at state and local levels. They inform and organize other consumers, raise issues, help businesses develop consumer-oriented programs, and pressure lawmakers to enact consumer protection laws. Some consumer advocates and organizations encourage consumers to boycott products and businesses to which they have objections. Today the consumer movement has adopted corporate-style marketing and addresses a broad range of issues. Current campaigns include efforts (1) to curtail the use of animals for testing purposes, (2) to reduce liquor and cigarette billboard advertising in low-income, inner-city neighborhoods, and (3) to encourage recycling.

Educating consumers to make wiser purchasing decisions is perhaps one of the most far-reaching aspects of consumerism. Increasingly, consumer education is becoming a part of high school and college curricula and adult education programs. These programs cover many topics—for instance, what major factors should be considered when buying specific products, such as insurance, real estate, automobiles, appliances and furniture, clothes, and food; the provisions of certain consumer protection laws; and the sources of information that can help individuals become knowledgeable consumers.

Major advances in consumerism have come through federal legislation. Some laws enacted in the last forty years to protect your rights as a consumer are listed and described in Table 2.4. Most businesspeople now realize that they ignore consumer issues only at their own peril. Managers know that improper handling of consumer complaints can result in lost sales, bad publicity, and lawsuits.

Employment Practices

We have seen that managers who subscribe to the socioeconomic view of business's social responsibility, together with significant government legislation enacted to protect the buying public, have broadened the rights of consumers. The last four decades have seen similar progress in affirming the rights of employees to equal treatment in the workplace.

Everyone should have the opportunity to land a job for which he or she is qualified and to be rewarded on the basis of ability and performance. This is an important issue for society, and it also makes good business sense. Yet, over the years, this opportunity has been denied to members of various minority groups. A **minority** is a racial, religious, political, national, or other group regarded as different from the larger group of which it is a part and that is often singled out for unfavorable treatment.

The federal government responded to the outcry of minority groups during the 1960s and 1970s by passing a number of laws forbidding discrimination in the workplace. (These laws are discussed in Chapter 10 in the context of human resources management.) Now, thirty-eight years after passage of the first of these (the Civil Rights Act of 1964), abuses still exist. An example is the disparity in income levels for whites, blacks, and Hispanics, as illustrated in Figure 2.3 on page 54. Lower incomes and higher unemployment rates also characterize Native Americans, handicapped persons, and women. Responsible managers have instituted a number of programs to counteract the results of discrimination. As part of his "Digital Divide" campaign tour President Clinton visited many communities to bring attention to the fact that a gap exists between those Americans fortunate enough to be participating in Internet and high-technology industries and those who have been left out. He called on Silicon Valley business executives in the Palo Alto area of California in particular to accept the challenge and social responsibility to educate Americans rather than to import skilled workers to fill vacant jobs.[14]

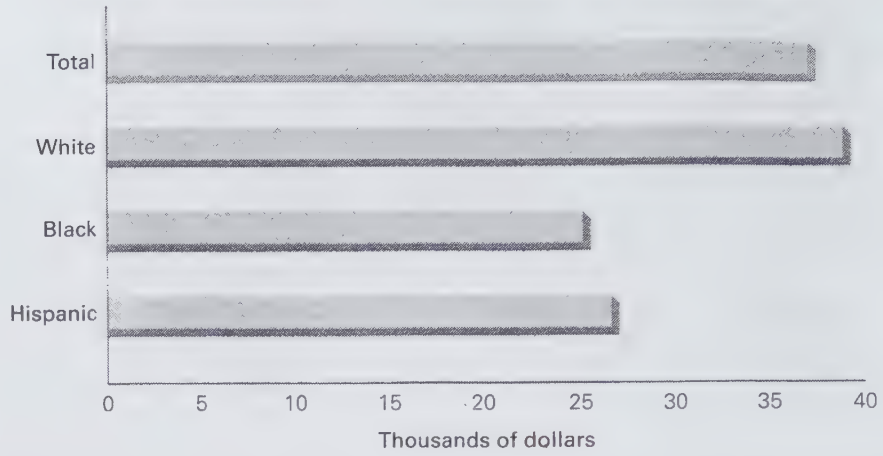
table 2.4 Major Federal Legislation Protecting Consumers Since 1960

Legislation	Major Provisions
Federal Hazardous Substances Labeling Act (1960)	Required warning labels on household chemicals if they are highly toxic
Kefauver-Harris Drug Amendments (1962)	Established testing practices for drugs and required manufacturers to label drugs with generic names in addition to trade names
Cigarette Labeling Act (1965)	Required manufacturers to place standard warning labels on all cigarette packages and advertising
Fair Packaging and Labeling Act (1966)	Called for all products sold across state lines to be labeled with net weight, ingredients, and manufacturer's name and address
Motor Vehicle Safety Act (1966)	Established standards for safer cars
Wholesome Meat Act (1967)	Required states to inspect meat (but not poultry) sold within the state
Flammable Fabrics Act (1967)	Extended flammability standards for clothing to include children's sleepwear in sizes 0 to 6X
Truth in Lending Act (1968)	Required lenders and credit merchants to disclose the full cost of finance charges in both dollars and annual percentage rates
Child Protection and Toy Act (1969)	Banned toys with mechanical or electrical defects from interstate commerce
Credit Card Liability Act (1970)	Limited credit card holder's liability to $50 per card and stopped credit card companies from issuing unsolicited cards
Fair Credit Reporting Act (1971)	Required credit bureaus to provide credit reports to consumers regarding their own credit files; also provided for correction of incorrect information
Consumer Product Safety Commission Act (1972)	Established the Consumer Product Safety Commission
Trade Regulation Rule (1972)	Established a "cooling-off" period of 72 hours for door-to-door sales
Fair Credit Billing Act (1974)	Amended the Truth in Lending Act to enable consumers to challenge billing errors
Equal Credit Opportunity Act (1974)	Provided equal credit opportunities for males and females and for married and single individuals
Magnuson-Moss Warranty-Federal Trade Commission Act (1975)	Provided for minimum disclosure standards for written consumer product warranties for products that cost more than $15
Amendments to Equal Credit Opportunity Act (1976, 1994)	Prevented discrimination based on race, creed, color, religion, age, and income when granting credit
Fair Debt Collection Practices Act (1977)	Outlawed abusive collection practices by third parties
Drug Price Competition and Patent Restoration Act (1984)	Established an abbreviated procedure for registering certain generic drugs
Orphan Drug Act (1985)	Amended the original 1983 Orphan Drug Act and extended tax incentives to encourage the development of drugs for rare diseases
Nutrition Labeling and Education Act (1990)	Required the FDA to review current food labeling and packaging focusing on nutrition label content, label format, ingredient labeling, food descriptors and standards, and health messages
Telephone Consumer Protection Act (1991)	Prohibited the use of automated dialing and prerecorded-voice calling equipment to make calls or deliver messages
Consumer Credit Reporting Reform Act (1997)	Placed more responsibility for accurate credit data on credit issuers; required creditors to verify that disputed data are accurate and to notify a consumer before reinstating the data

figure 2.3

Comparative Income Levels

The chart shows the median household incomes of the total population and of white, black, and Hispanic workers in 1997. (Hispanic persons may be of any race.)



Source: U.S. Bureau of the Census, *Statistical Abstract of the United States*, 1999, p. 474.

Affirmative Action Programs

An **affirmative action program** is a plan designed to increase the number of minority employees at all levels within an organization. Employers with federal contracts of more than $50,000 per year must have written affirmative action plans. The objective of such programs is to ensure that minorities are represented within the organization in approximately the same proportion as in the surrounding community. If 25 percent of the electricians in a geographic area in which a company is located are black, then approximately 25 percent of the electricians it employs should also be black. Affirmative action plans encompass all areas of human resources management: recruiting, hiring, training, promotion, and pay.

Unfortunately, affirmative action programs have been plagued by two problems. The first involves quotas. In the beginning, many firms pledged to recruit and hire a certain number of minority members by a specific date. To achieve this goal, they were forced to consider only minority applicants for job openings; if they hired nonminority workers, they would be defeating their own purpose. But the courts have ruled that such quotas are unconstitutional even though their purpose is commendable. They are, in fact, a form of discrimination called reverse discrimination.

The second problem is that although most such programs have been reasonably successful, not all businesspeople are in favor of affirmative action programs. Managers not committed to these programs can "play the game" and still discriminate against workers. To help solve this problem, Congress created (and later strengthened) the **Equal Employment Opportunity Commission (EEOC),** a government agency with power to investigate complaints of employment discrimination and power to sue firms that practice it.

The threat of legal action has persuaded some corporations to amend their hiring and promotional policies, but the discrepancy between men's and women's salaries has not really been affected, as illustrated in Figure 2.4. For more than thirty years, women have consistently earned only about 60 cents for each dollar earned by men.

Training Programs for the Hard-Core Unemployed

For some firms, social responsibility extends far beyond placing a help-wanted ad in the local newspaper. These firms have assumed the task of helping the **hard-core unemployed:** workers with little education or vocational training and a long history of unemployment. In the past, such workers were often routinely turned down by personnel managers, even for the most menial jobs.

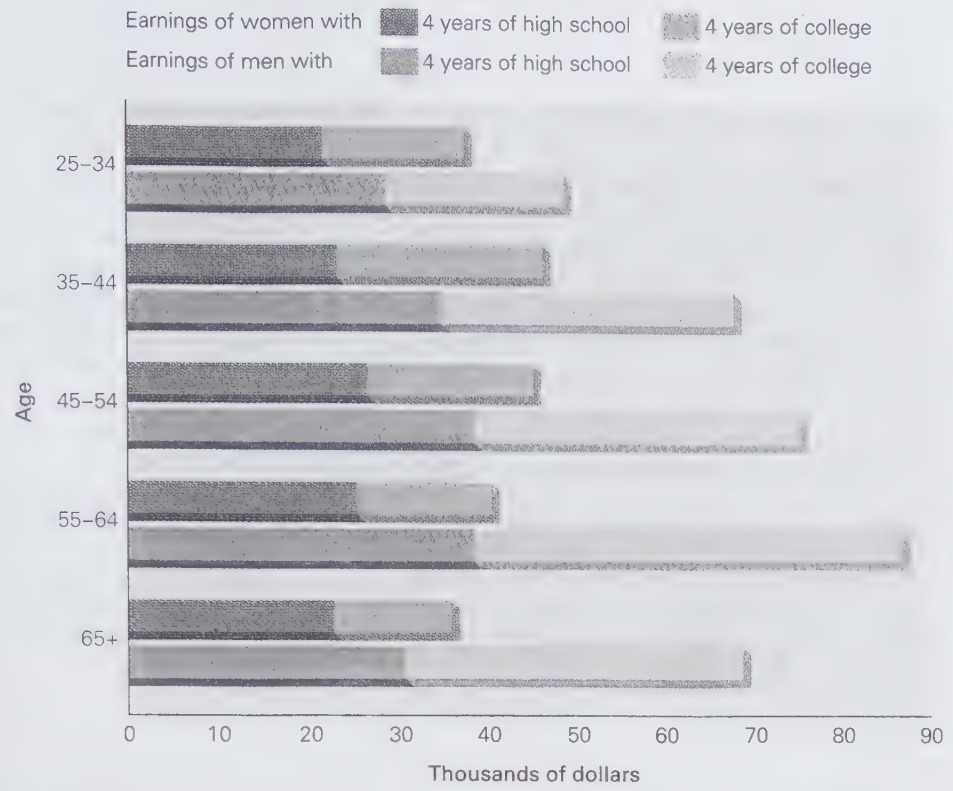


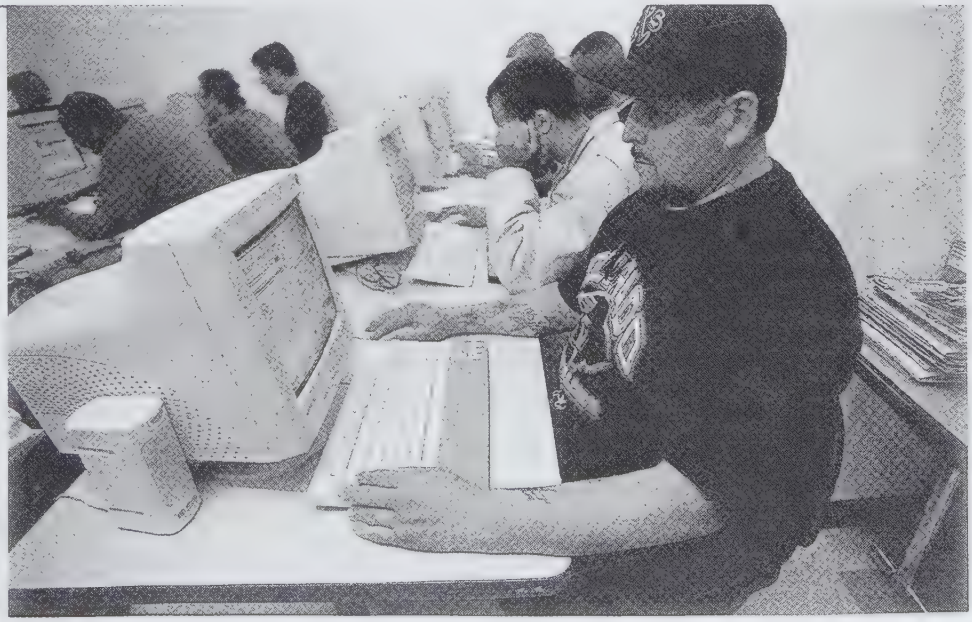
figure 2.4

Relative Earnings of Male and Female Workers

For more than three decades, the ratio of women's to men's annual, full-time earnings has remained fixed at about the 60 percent level. (Indeed some observers claim this ratio goes back to biblical times, citing that for purposes of tithing an adult woman was valued at 30 shekels of silver, compared with a man's 50 shekels.)

Source: U.S. Bureau of the Census, *Statistical Abstract of the United States*, 1999, p. 482.

Obviously, such workers require training; just as obviously, this training can be expensive and time-consuming. To share the costs, business and government have joined together in a number of cooperative programs. One particularly successful partnership is the **National Alliance of Business (NAB),** a joint business-government program to train the hard-core unemployed. The NAB is sponsored by participating corporations, whose executives contribute their talents to do the actual training. The government's responsibilities include setting objectives, establishing priorities, offering the right incentives, and providing limited financing.



Training where it's most needed. Preparing workers with little education or vocational training can be expensive and time-consuming. To share the training costs, business and government have joined together in cooperative programs. In a San Jose, California, homeless shelter, Rick Franco and others take a Cisco Systems computer training class.

Concern for the Environment

The social consciousness of responsible business managers, the encouragement of a concerned government, and an increasing concern on the part of the public have led to a major effort to reduce environmental pollution, conserve natural resources, and reverse some of the worst effects of past negligence in this area.

Pollution is the contamination of water, air, or land through the actions of people in an industrialized society. For several decades, environmentalists have been warning us about the dangers of industrial pollution. Unfortunately, business and government leaders either ignored the problem or weren't concerned about it until pollution became a threat to life and health in America. Today Americans expect business and government leaders to take swift action to clean up our environment—and to keep it clean.

Effects of Environmental Legislation

As in other areas of concern to our society, legislation and regulations play a crucial role in pollution control. The laws outlined in Table 2.5 reflect the scope of current environmental legislation: laws to promote clean air, clean water, and even quiet work and living environments. Of major importance was the creation of the Environmental Protection Agency (EPA), the federal agency charged with enforcing laws designed to protect the environment.

table 2.5 **Summary of Major Environmental Laws**

Legislation	Major Provisions
National Environmental Policy Act (1970)	Established the Environmental Protection Agency (EPA) to enforce federal laws that involve the environment
Clean Air Amendment (1970)	Provided stringent automotive, aircraft, and factory emission standards
Water Quality Improvement Act (1970)	Strengthened existing water pollution regulations and provided for large monetary fines against violators
Resource Recovery Act (1970)	Enlarged the solid-waste disposal program and provided for enforcement by the EPA
Water Pollution Control Act Amendment (1972)	Established standards for cleaning navigable streams and lakes and eliminating all harmful waste disposal by 1985
Noise Control Act (1972)	Established standards for major sources of noise and required the EPA to advise the Federal Aviation Administration on standards for airplanes
Clean Air Act Amendment (1977)	Established new deadlines for cleaning up polluted areas; also required review of existing air-quality standards
Resource Conservation and Recovery Act (1984)	Amended the original 1976 act and required federal regulation of potentially dangerous solid-waste disposal
Clean Air Act Amendment (1987)	Established a national air-quality standard for ozone
Oil Pollution Act (1990)	Expanded the nation's oil spill prevention and response activities; also established the Oil Spill Liability Trust Fund
Clean Air Act Amendments (1990)	Required that motor vehicles be equipped with onboard systems to control about 90 percent of refueling vapors

When they are aware of a pollution problem, many firms respond to it rather than wait to be cited by the EPA. But other owners and managers take the position that environmental standards are too strict. (Loosely translated, this means that compliance with present standards is too expensive.) Consequently, it has often been necessary for the EPA to take legal action to force firms to install antipollution equipment and clean up waste storage areas.

Experience has shown that the combination of environmental legislation, voluntary compliance, and EPA action can succeed in cleaning up the environment and keeping it clean. However, much still remains to be done.

Water Pollution The Clean Water Act has been credited with greatly improving the condition of the waters in the United States. This success comes largely from the control of pollutant discharges from industrial and waste water treatment plants.[15] Although the quality of our nation's rivers, lakes, and streams has improved significantly in recent years, many of these surface waters remain severely polluted. Currently, one of the most serious water-quality problems results from the high level of toxic pollutants found in these waters.

Among the serious threats to people posed by water pollutants are respiratory irritation, cancer, kidney and liver damage, anemia, and heart failure. Toxic pollutants also damage fish and other forms of wildlife. In fish, they cause tumors or reproductive problems; shellfish and wildlife living in or drinking from toxin-infested waters have also suffered genetic defects.

The task of water cleanup has proved to be extremely complicated and costly because of pollution runoff and toxic contamination. And yet, improved water quality is not only necessary; it is also achievable. Consider Cleveland's Cuyahoga River. A few years ago the river was so contaminated by industrial wastes that it burst into flames one hot summer day! Now, after a sustained community cleanup effort, the river is pure enough for fish to thrive in.

Another serious issue is acid rain, which is contributing significantly to the deterioration of coastal waters, lakes, and marine life in the eastern United States. Acid rain forms when sulfur emitted by smokestacks in industrialized areas combines with moisture in the atmosphere to form acids that are spread by winds. The acids eventually fall to the earth in rain, which finds its way into streams, rivers, and lakes. The acid rain problem has spread rapidly in recent years, and experts fear the situation will worsen if the nation begins to burn more coal to generate electricity. To solve the problem, investigators must first determine where the sulfur is being emitted. The expenses that this vital investigation and cleanup entail are going to be high. The human costs of having ignored the problem so long may be higher still.

Air Pollution Aviation emissions are a potentially significant and growing percentage of greenhouse gases that contribute to global warming. Aircraft emissions are potentially significant for several reasons. First, jet aircraft are the main source of human emissions deposited directly into the upper atmosphere, where they may have a greater warming effect than if they were released at the earth's surface. Second, carbon dioxide—the primary aircraft emission—is the main focus of international concern. For example, it survives in the atmosphere for nearly one hundred years and contributes to global warming, according to the Intergovernmental Panel on Climate Change. The carbon dioxide emissions from worldwide aviation roughly equal those of some industrialized countries. Third, carbon dioxide emissions, combined with other gases and particles emitted by jet aircraft, could have two to four times as great an effect on the atmosphere as carbon dioxide alone. Fourth, the Intergovernmental Panel recently concluded that the rise in aviation emissions due to growing demand for air travel would not be fully offset by reductions in emissions achieved solely through technological improvements. Experts in the U.S. General Accounting Office interviewed, as well as the report of the Intergovernmental Panel, have cited several options for better understanding and mitigating the impact of aviation on the atmosphere as the industry grows. These options include (1) continuing research to improve the scientific understanding of aviation's effects on the global atmosphere as a basis for guiding the

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Would you want to breathe this air? In addition to its adverse impact on human health and animal life, air pollution inflicts considerable global economic damage. The task of cleaning the air, such as that around this steel plant in Volta Redunda, Brazil, is complicated and costly—but must be mandatory to save our planet.

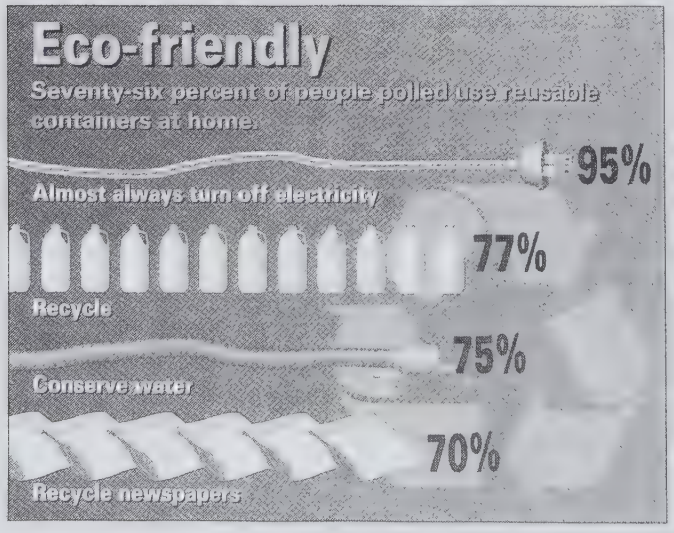
development of aircraft and engine technology to reduce them, (2) promoting more efficient air traffic operations through the introduction of new technologies and procedures, and (3) expanding the use of regulatory and economic measures to encourage reductions in emissions.[16]

Usually two or three factors combine to form air pollution in any given location. The first factor is large amounts of carbon monoxide and hydrocarbons emitted by motor vehicles concentrated in a relatively small area. The second is the smoke and other pollutants emitted by manufacturing facilities. These two factors can be partially eliminated through pollution-control devices on cars, trucks, and smokestacks.

A third factor that contributes to air pollution—one that cannot be changed—is the combination of weather and geography. The Los Angeles basin, for example, combines just the right weather and geographic conditions for creating dense smog. Los Angeles has strict regulations regarding air pollution. Even so, Los Angeles still struggles with air pollution problems because of uncontrollable conditions.

How effective is air pollution control? The EPA estimates that the Clean Air Act and its amendments will eventually result in the removal of 56 billion pounds of pollution from the air each year, thus measurably reducing lung disease, cancer, and other serious health problems caused by air pollution[17] Other authorities note that we have already seen improvement in air quality. A number of cities have cleaner air today than they did twenty-five years ago. Numerous chemical companies have recognized that they must take responsibility for operating their plants in an environmentally safe manner; some now devote considerable capital to purchasing antipollution devices. However, air levels of sulfur dioxide and nitrogen dioxide—the main components of acid rain—continue to increase. Although one might think that Internet-based home-shopping would help reduce air pollution by cutting back the need for consumers to drive their cars to shopping malls, there has been an *increase* in air pollution due to the addition of delivery vehicles, according to Lynne Elvins of SustainAbility, a London-based consulting group.[18]

spotLight



Source: Copyright 2000, USA TODAY. Reprinted with permission.

Land Pollution Air and water quality may be improving, but land pollution is still a serious problem in many areas. The fundamental issues are (1) how to restore damaged or contaminated land at a reasonable cost and (2) how to protect unpolluted land from future damage.

The land pollution problem has been worsening over the past few years, as modern technology has continued to produce increasing amounts of chemical and radioactive waste. U.S. manufacturers produce an estimated 40 to 60 million tons of

contaminated oil, solvents, acids, and sludges each year. Service businesses, utility companies, hospitals, and other industries also dump vast amounts of wastes into the environment.

Individuals in the United States contribute to the waste disposal problem, too. A shortage of landfills, owing to stricter regulations, makes garbage disposal a serious problem in some areas. Incinerators help solve the landfill shortage problem, but they bring with them their own problems. They reduce the amount of garbage but also leave tons of ash to be buried—ash that often has a higher concentration of toxicity than the original garbage. Other causes of land pollution include strip-mining of coal, nonselective cutting of forests, and the development of agricultural land for housing and industry.

Land pollution still a serious hazard. Congress created a $1.6 billion Superfund to help pay the costs of cleaning up land laced with chemicals and toxic wastes. Here, EPA scientists check soil for arsenic at a Superfund site in California.

To help pay the enormous costs of cleaning up land polluted with chemicals and toxic wastes, Congress created a $1.6 billion Superfund in 1980. Originally, money was to flow into the Superfund from a tax paid by 800 oil and chemical companies that produce toxic waste. The EPA was to use the money in the Superfund to finance the cleanup of hazardous waste sites across the nation. To replenish the Superfund, the EPA had two options: it could sue companies guilty of dumping chemicals at specific waste sites, or it could negotiate with guilty companies and thus completely avoid the legal system. During the 1980s, officials at the EPA came under fire because they preferred negotiated settlements. Critics referred to these settlements as "sweetheart deals" with industry. They felt the EPA should be much more aggressive in reducing land pollution. Of course, most corporate executives believe that cleanup efficiency and quality might be improved if companies were more involved in the process.

Since the Superfund was established, the EPA has spent about $17.7 billion, yet 42 percent of the nation's 1,400 most severely contaminated hazardous waste sites need cleanups.[19]

Noise Pollution Excessive noise caused by traffic, aircraft, and machinery can do physical harm to human beings. Research has shown that people who are exposed to loud noises for long periods of time can suffer permanent hearing loss. The Noise Control Act of 1972 established noise emission standards for aircraft and airports, railroads, and interstate motor carriers. The act also provided funding for noise research at state and local levels.

Noise levels can be reduced by two methods. The source of noise pollution can be isolated as much as possible. (Thus, many metropolitan airports are located outside the cities.) And engineers can modify machinery and equipment to reduce noise levels. If it is impossible to reduce industrial noise to acceptable levels, workers should be required to wear earplugs to guard against permanent hearing damage.

Who Should Pay for a Clean Environment?

Governments and businesses are spending billions of dollars annually to reduce pollution—over $35 billion to control air pollution, $25 billion to control water pollution, and $12 billion to treat hazardous wastes.

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To make matters worse, much of the money required to purify the environment is supposed to come from already depressed industries, such as the chemical industry. And a few firms have discovered it is cheaper to pay a fine than to install expensive equipment for pollution control.

Who, then, will pay for the environmental cleanup? Many business leaders offer one answer—tax money should be used to clean up the environment and to keep it clean. They reason that business is not the only source of pollution, so business should not be forced to absorb the entire cost of the cleanup. Environmentalists disagree. They believe the cost of proper treatment and disposal of industrial wastes is an expense of doing business. In either case, consumers will probably pay a large part of the cost—either as taxes or in the form of higher prices for goods and services.

Perhaps, as a study by the Boston Consulting Group suggests, e-business can help provide a solution satisfactory to all participants through a reduction in paper usage for newspapers and catalogs. The study estimates that by 2003, use of the Internet will result in a two million-ton annual decline in newsprint consumption in the U.S. alone as consumers shift their search for information to online sources. The savings and social benefits increase when the costs of pollution for delivery of print-based newspapers and catalogs are factored in.[20]

Implementing a Program of Social Responsibility

A firm's decision to be socially responsible is a step in the right direction—but only the first step. The firm must then develop and implement a program to reach this goal. The program will be affected by the firm's size, financial resources, past record in the area of social responsibility, and competition. But above all, the program must have the firm's total commitment or it will fail.

Developing a Program of Social Responsibility

An effective program for social responsibility takes time, money, and organization. In most cases, developing and implementing such a program will require four steps: securing the commitment of top executives, planning, appointing a director, and preparing a social audit.

Commitment of Top Executives Without the support of top executives, any program will soon falter and become ineffective. For example, the Boeing Company's Ethics and Business Conduct Committee is responsible for the ethics program. The committee is appointed by the Boeing Board of Directors and its members include the company chairman and chief executive officer, president and chief operating officer, presidents of the operating groups, and senior vice presidents. As evidence of their commitment to social responsibility, top managers should develop a policy statement that outlines key areas of concern. This statement sets a tone of positive support and will later serve as a guide for other employees as they become involved in the program.

Planning Next a committee of managers should be appointed to plan the program. Whatever form their plan takes, it should deal with each of the issues described in the top managers' policy statement. If necessary, outside consultants can be hired to help develop the plan.

Appointment of a Director After the social responsibility plan is established, a top-level executive should be appointed to implement the organization's plan. This individual should be charged with recommending specific policies and helping individual departments understand and live up to the social responsibilities the firm has

assumed. Depending on the size of the firm, the director may require a staff to handle the program on a day-to-day basis. For example, at the Boeing Company, the director of Ethics and Business Conduct administers the ethics and business conduct program.

The Social Audit At specified intervals, the program director should prepare a social audit for the firm. A **social audit** is a comprehensive report of what an organization has done, and is doing, with regard to social issues that affect it. This document provides the information the firm needs to evaluate and revise its social responsibility program. Typical subject areas include human resources, community involvement, the quality and safety of products, business practices, and efforts to reduce pollution and improve the environment. The information included in a social audit should be as accurate and as quantitative as possible, and the audit should reveal both positive and negative aspects of the program.

Today, many companies listen to concerned individuals within and outside the company. For example, the Boeing Ethics Line listens to and acts on concerns expressed by employees and others about possible violations of company policies, laws, or regulations such as improper or unethical business practices, as well as health, safety, and environmental issues. Employees are encouraged to communicate their concerns, as well as ask questions about ethical issues. The Ethics Line is available to all Boeing employees, including Boeing subsidiaries. It is also available to concerned individuals outside the company.

Funding the Program

We have noted that social responsibility costs money. Thus, just like any other corporate undertaking, a program to improve social responsibility must be funded. Funding can come from three sources:

1. Management can pass the cost on to consumers in the form of higher prices.
2. The corporation may be forced to absorb the cost of the program, if, for example, the competitive situation does not permit a price increase. In this case, the cost is treated as a business expense, and profit is reduced.
3. The federal government may pay for all or part of the cost through tax reductions or other incentives.

RETURN TO inside Business

TEXAS INSTRUMENTS HAD BEEN preaching and practicing ethical decision-making for decades—even before its aggressive global expansion. But new markets brought new ethical challenges, so TI moved beyond its written code of ethics to create new employee tools and training for ethical decision-making. The company also appointed an ethics director (currently Jack Swindle) and a compliance officer (currently Hector Cardenas) to report to a new senior-level Ethics Office charged with monitoring and enforcing ethics policies and practices.

Organization-wide surveys help TI confirm that employees remain aware of the firm's strong commitment to ethics. TI's ethics initiatives have also received public recognition, winning three business ethics awards and serving as a model for other companies. By using every opportunity to reinforce high ethical standards, TI has forged a reputation as a principled leader in its industry and in the communities where it operates.

Questions

1. Why would other companies prefer to do business with an acknowledged ethics leader such as Texas Instruments?
2. Should TI require all its suppliers and distributors to act in accordance with the company's high ethical standards? Explain your answer.

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PSYCHOLOGY

Fifth Edition

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3

Biological Aspects of Psychology

OUTLINE

The Nervous System
Cells of the Nervous System
Action Potentials
Synapses and Communication Between Neurons
Organization and Functions of the Nervous System

The Peripheral Nervous System: Keeping in Touch with the World
The Somatic Nervous System
The Autonomic Nervous System

The Central Nervous System: Making Sense of the World
The Spinal Cord
The Brain
Focus on Research Methods: Manipulating Genes in Animal Models of Human Disease
The Cerebral Cortex
The Divided Brain in a Unified Self
Plasticity in the Brain
Linkages: Human Development and the Changing Brain

The Chemistry of Psychology
Seven Major Neurotransmitters
Thinking Critically: Are There Drugs That Can Make You Smarter?

The Endocrine System: Coordinating the Internal World

The Immune System: Linking the Brain and the Body's Defense System

Linkages

Summary

Key Terms

Today millions of people who suffer from depression or anxiety take drugs such as Prozac, because doctors now believe these conditions result from biological imbalances. Diseases of the brain can cause an elderly woman to forget her own children's names and a young man to be unable to pick up a glass of water without shaking. Maybe you yourself worry that your body's metabolism is working against your best efforts to lose or gain weight.

These examples of biological explanations for behavior and mental processes reflect the biological approach to psychology discussed in Chapter 1. The popularity and influence of that approach stems from the fact that brain cells, hormones, genes, and other biological factors are intimately related to all behavior and mental processes, from the fleeting memory you had a minute ago to the movements of your eyes as you read right now. In this chapter, we describe these biological factors in more detail. Reading it will take you into the realm of **biological psychology,** which is the study of the cells and organs of the body and the physical and chemical changes involved in behavior and mental processes. It is here that we begin to consider the relationship between your body and your mind, your brain and your behavior. Throughout the chapter you will see examples of the role of biology in many human behaviors and mental processes.

People often assume that if a behavior or mental process has a strong biological basis, it is beyond control, that "biology is destiny." Accordingly, many smokers don't even try to quit because they assume that a biological addiction to nicotine will doom them to failure. This is not necessarily true, as millions of ex-smokers can attest. Indeed, the fact that all behavior and mental processes are *based* on biological processes does not mean that they can be fully understood through the study of biological processes alone. Those who would reduce all of psychology to the analysis of brain chemicals vastly oversimplify the interactions between our biological selves and our psychological experiences, between our genes and our environments.

For one thing, just as all behaviors and mental processes are influenced by biology, all biological processes are influenced by the environment. Height, for example, is a biologically determined characteristic, but how tall you actually become also depends on nutrition and other environmental factors (Tanner, 1992). As discussed in Chapter 2 and the behavioral genetics appendix, hereditary and environmental influences combine to determine height, intelligence, personality, mental disorders, and many other characteristics.

In short, understanding behavior and mental processes requires that we synthesize information from many levels of analysis, from the activity of cells and organ systems to the activity of individuals and groups in social contexts. This chapter focuses on the biological level, not because it reveals the whole story of psychology but because it tells an important part of that story.

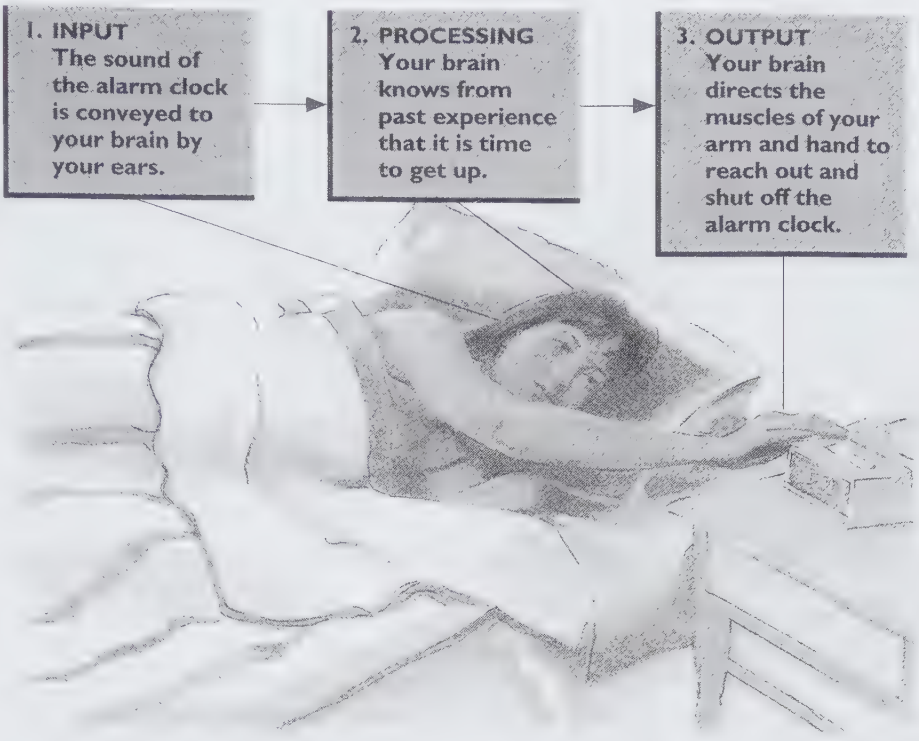
We begin by considering your **nervous system,** a complex combination of cells that allows you to gain information about what is going on inside and outside your body and to respond appropriately. In doing so, the nervous system displays the components of an information-processing system: It has input, processing, and output activities (see Figure 3.1). You receive *input* in the form of sensory signals from the world. During *processing,* you integrate the information with past experiences and decide what to do about it. And *output* occurs as your brain activates your muscles to act on the information. It is a fundamental tenet of scientific psychology that every thought, every feeling, every action, is represented somehow in the nervous system and that none of these events could occur without it.

The nervous system is able to do what it does partly because it is made up of cells that *communicate with each other.* Like all cells in the body—indeed, like cells in all life forms—those in the nervous system can respond to outside influences. Many of the signals that cells respond to come in the form of *chemicals* released by other cells. So even as various cells specialize during prenatal development to become skin, bone, hair, and other tissues, they still "stay in touch" to some extent through chemical signals. Bone cells, for example, add or drop calcium in response to hormones secreted in another part of the body. Cells in the bloodstream respond to viruses and other

FIGURE 3.1

Three Functions of the Nervous System

The nervous system's three main functions involve receiving information (input), integrating that information with past experiences (processing), and guiding actions (output). These functions work in various situations in the service of your motivational state and your goals, helping you do everything from satisfying hunger to getting a job.


1. INPUT
The sound of the alarm clock is conveyed to your brain by your ears.
2. PROCESSING
Your brain knows from past experience that it is time to get up.
3. OUTPUT
Your brain directs the muscles of your arm and hand to reach out and shut off the alarm clock.

invaders by destroying them. We focus first on the cells of the nervous system because their ability to communicate is the most efficient and complex.

THE NERVOUS SYSTEM

Scientists explore the nervous system at many levels, from the workings of molecules and cells to the wonders of how vast networks of brain cells accomplish such tasks as recognizing visual patterns and learning a language. We begin our exploration of the nervous system at the "bottom," with a description of the individual cells and molecules that compose it. Then we consider how these cells are organized to form the structures of the human nervous system.

Cells of the Nervous System

One of the most striking findings in current research on the cells of the nervous system is how similar they are to other cells in the body, and how similar all cells are in all living organisms, from bacteria to plants to humans. For example, bacteria, plant cells, and brain cells all synthesize similar proteins when they are subjected to reduced oxygen or elevated temperatures. The implications of this similarity are clear: We can learn much about humans by studying animals, and much about brain cells by studying cells in simple organisms. For example, *Alzheimer's disease* is a disease of cells in the brain that usually occurs among older people; it causes a progressive and dramatic deterioration in reasoning and a broad range of other cognitive abilities (see the Focus on Research Methods section in this chapter). Recently, studies of cells in simple worms have provided clues to the causes of this terrible illness (Mattson et al., 1998).

Figure 3.2 illustrates three of the characteristics that cells of the nervous system share with every other kind of cell in the body. First, they have an *outer membrane* that, like a fine screen, lets some substances pass in and out while blocking others. Second, nervous system cells have a *cell body,* which contains a *nucleus.* The nucleus carries the genetic information that determines how a cell will function. Third, nervous system cells contain *mitochondria,* which are structures that turn oxygen and glucose into energy. This

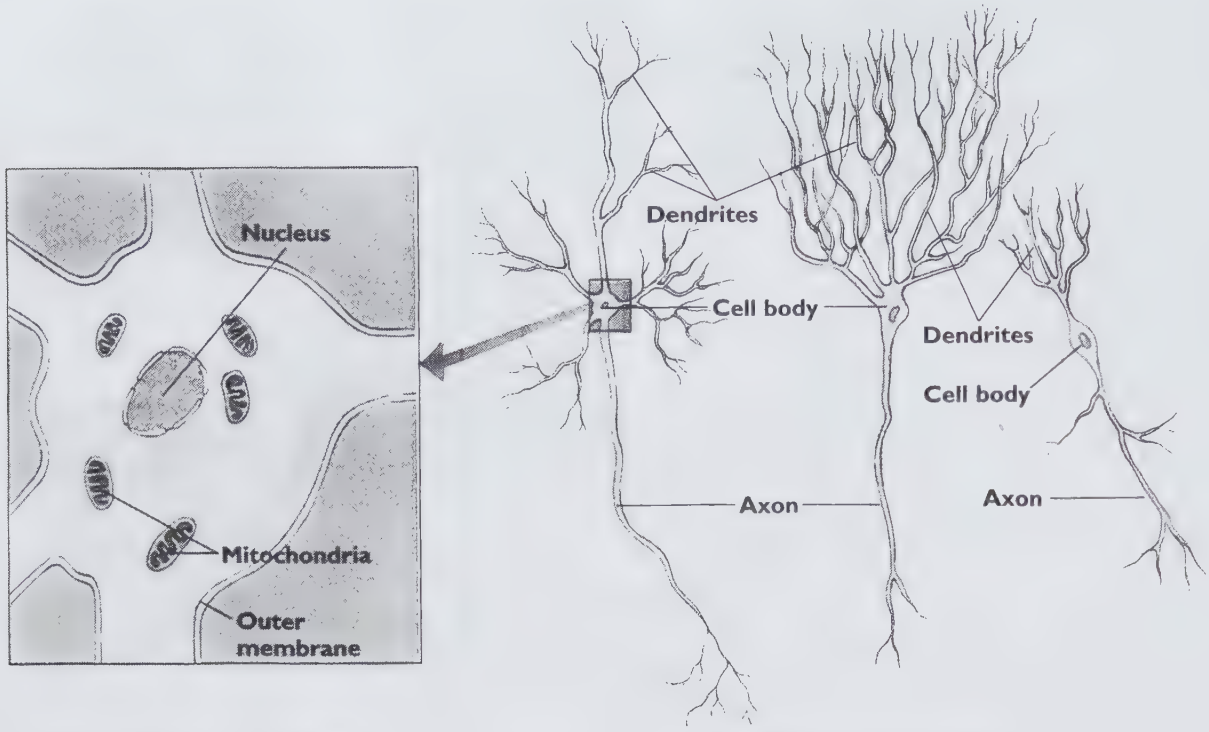


FIGURE 3.2

The Neuron

Part (A) shows three examples of *neurons,* which are cells in the nervous system. The fibers extending outward from each cell body—the axons and dendrites—are among the features that make neurons unique. Part (B) is an enlarged drawing of the cell body of a neuron. The cell body of every neuron has typical cell elements, including an outer membrane, a nucleus, and mitochondria.

process is especially vital to brain cells. Although the brain accounts for only 2 percent of the body's weight, it consumes more than 20 percent of the body's oxygen (Sokoloff, 1981). All of this energy is required because brain cells transmit signals among themselves to an even greater extent than do cells in the rest of the body.

Two major types of cells—called neurons and glial cells—allow the nervous system to carry out its complex signaling tasks so efficiently. **Neurons** are cells that are specialized to rapidly respond to signals and quickly send signals of their own. Most of our discussion of brain cells will be about neurons, but glial cells are important as well. Glial means "glue," and scientists had long believed that glial cells did no more than hold neurons together. Recent research shows, however, that **glial cells** also help neurons communicate by directing their growth, keeping their chemical environment stable, secreting chemicals to help restore damage, and even responding to signals from neurons (Cai & Kimelberg, 1997). Without glial cells, neurons could not function.

Neurons have three special features that enable them to communicate signals efficiently. The first is their structure. Although neurons come in many shapes and sizes, they all have long, thin fibers that extend outward from the cell body (see Figure 3.2). When these fibers get close to other neurons, communication between the cells can occur. The intertwining of all these fibers with fibers from other neurons allows each neuron to be in close proximity to thousands or even hundreds of thousands of other neurons.

The fibers extending from a neuron's cell body are called axons and dendrites. **Axons** are the fibers that carry signals away from the cell body, out to where communication occurs with other neurons. Each neuron generally has only one axon leaving the cell body, but that one axon may have many branches. Axons can be very short or several feet long, like the axon that sends signals from the spinal cord all the way down to the big toe. **Dendrites** are the fibers that receive signals from the axons of other neurons and carry those signals to the cell body. A neuron can have many dendrites. Dendrites, too, usually have many branches. Remember that *a*xons carry signals *a*way from the cell body, whereas *d*endrites *d*etect those signals.

The neuron's ability to communicate efficiently also depends on two other features: the "excitable" surface membrane of some of its fibers, and the minute gap between neurons called a **synapse.** In the following sections we examine how these features allow a signal to be sent rapidly from one end of the neuron to the other and from one neuron to another.

Action Potentials

To understand the signals in the nervous system, you first need to know something about cell membranes and the chemical molecules within and outside the cell. The cell membrane is *selectively permeable;* that is, it lets some molecules pass through, but excludes others. Many molecules carry a positive or negative electrochemical charge and are referred to as **ions.** Normally, the membrane maintains an uneven distribution of positively and negatively charged ions inside and outside the cell. The result is that the inside of the cell is slightly more negative than the outside, and the membrane is said to be *polarized.* Because molecules with a positive charge are attracted to those with a negative charge, a force called an *electrochemical potential* drives positively charged molecules toward the inside of the cell; many, however, are kept outside by the membrane.

For communication in the nervous system, the two most important "excluded" molecules are sodium (the same sodium found in table salt) and calcium. Positively charged sodium and calcium ions are highly concentrated on the outside of the cell and are strongly attracted to negatively charged molecules inside the cell. However, sodium and calcium can pass through the membrane only by going through special openings, or channels, in the membrane. These channels are distributed along the axon and dendrites and act as gates that can be opened or closed.

Normally the sodium channels along the axon are closed, but changes in the environment of the cell can *depolarize* the membrane, making the area inside the membrane less negative. If the membrane is depolarized to a point called the *threshold,* then the gates swing open and the sodium ions rush in (see Figure 3.3). When this happens, the adjacent area of the axon becomes more depolarized, thereby causing the neighboring gate to open. This sequence continues, and the change in electrochemical potential spreads rapidly all the way down the axon.

This abrupt change in the potential of an axon is called an **action potential,** and its "contagious" nature is referred to as its *self-propagating property.* When an action potential shoots down an axon, the neuron is said to have *fired.* This is an *all-or-none* type of communication: The cell either fires at full strength or does not fire at all. For many years, scientists believed that only axons were capable of generating action

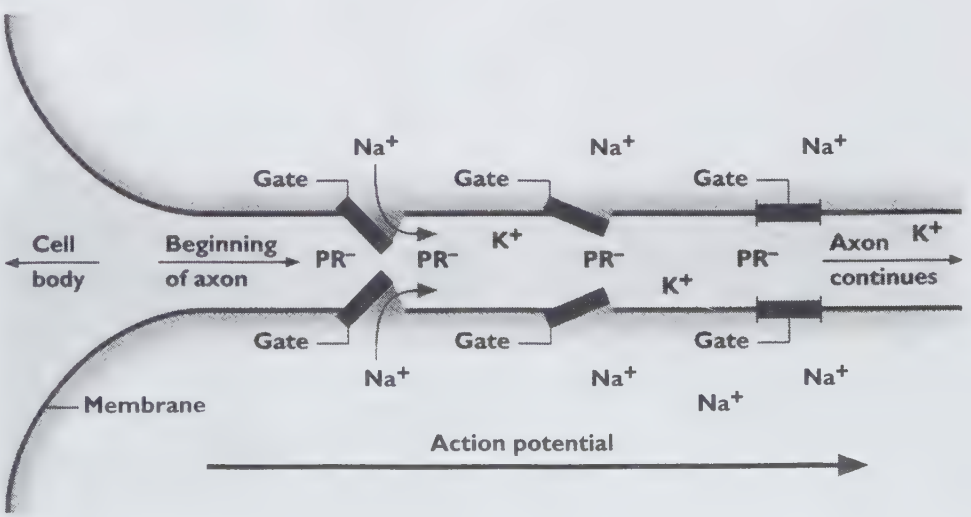


FIGURE 3.3

The Beginning of an Action Potential

This diagrammatic view of a polarized nerve cell shows the normally closed sodium gates in the cell membrane. The electrochemical potential across the membrane is generated by an uneven distribution of positive and negative ions. For example, there are more positive ions, such as sodium (Na^+), on the outside than on the inside. There are also more negative ions, such as negatively charged proteins (Pr^-) on the inside than on the outside. If stimulation causes depolarization near a particular sodium gate, that gate may swing open, allowing sodium to rush into the axon, stimulating the next gate to open, and so on down the axon. The cell is repolarized when the sodium gates are closed and gates are opened for potassium (K^+) to flow out. Calcium gates allow action potentials to spread along dendrites in a similar fashion.

potentials. However, research has recently revealed that action potentials also occur in dendrites (Stuart et al., 1997). So action potentials may go in different directions in different neurons. In some, the action potential begins at the axon and shoots down the axon, as already described. In others, action potentials are generated in the dendrites and send a signal into the cell body and on down the axon. In still others, action potentials beginning in the axon go in both directions—down the axon and also "backward" through the cell body and into the dendrites. Action potentials that spread into the dendrites from the cell body appear to invade some branches and not others, leading scientists to conclude that these messages may be important in strengthening particular connections between neurons (Magee & Johnston, 1997).

The speed of the action potential as it moves down an axon is constant for a particular cell, but in different cells the speed ranges from 0.2 meters per second to 120 meters per second (about 260 miles per hour). The speed depends on the diameter of the axon—larger ones are faster—and on whether myelin is present. **Myelin** (pronounced "MY-a-lin") is a fatty substance that wraps around some axons and speeds action potentials. Larger, myelinated cells are usually found in the parts of the nervous system that carry the most urgently needed information. For example, the sensory neurons that receive information from the environment about onrushing trains, hot irons, and other dangers are fast-acting, myelinated cells. Multiple sclerosis, a severe brain disorder that destroys myelin, occurs because of a virus that is very similar to a component of myelin (Hausmann & Wucherpfennig, 1997). When the victim's immune system attacks this virus, it attacks and destroys vital myelin as well, resulting in disruption of vision, speech, balance, and other important functions.

Although each neuron fires or does not fire in an "all-or-none" fashion, its *rate* of firing varies. It can fire over and over because the sodium gates open only briefly and then close. Between firings there is a very short rest, called a **refractory period.** During this time, gates for positively charged potassium open briefly; because of their high concentration on the inside of the axon, these ions flow out of the axon, and the membrane becomes repolarized. At that point the neuron can fire again. Because the refractory period is so short, a neuron can send action potentials down its axon at rates of up to 1,000 per second. The *pattern* of repeated action potentials amounts to a coded message. We describe some of the codes used by the nervous system in Chapter 4, on sensation.

Synapses and Communication Between Neurons

How does the action potential in one neuron affect the next neuron? For communication to occur *between* cells, the signal must be transferred across the synapse between neurons. Usually, the axon of one cell delivers its signals across a synapse to the dendrites of a second cell; those dendrites, in turn, transmit the signal to their cell body, which may relay the signal down its axon to a third cell, and so on. But other commu-

FIGURE 3.4

A Synapse

This photograph taken through an electron microscope shows part of a neural synapse magnified 50,000 times. Clearly visible are the mitochondria; the neurotransmitter-containing vesicles in the ending of the presynaptic cell's axon; the synapse itself, which is the narrow gap between the cells; and the dendrite of the postsynaptic cell.

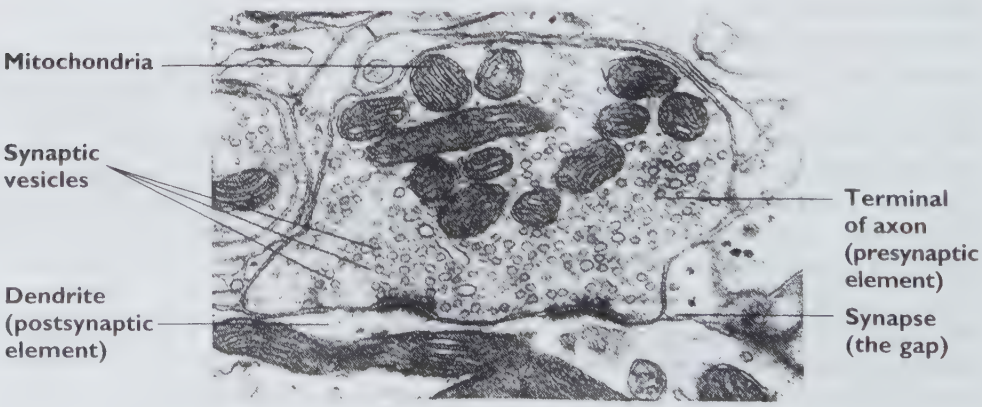
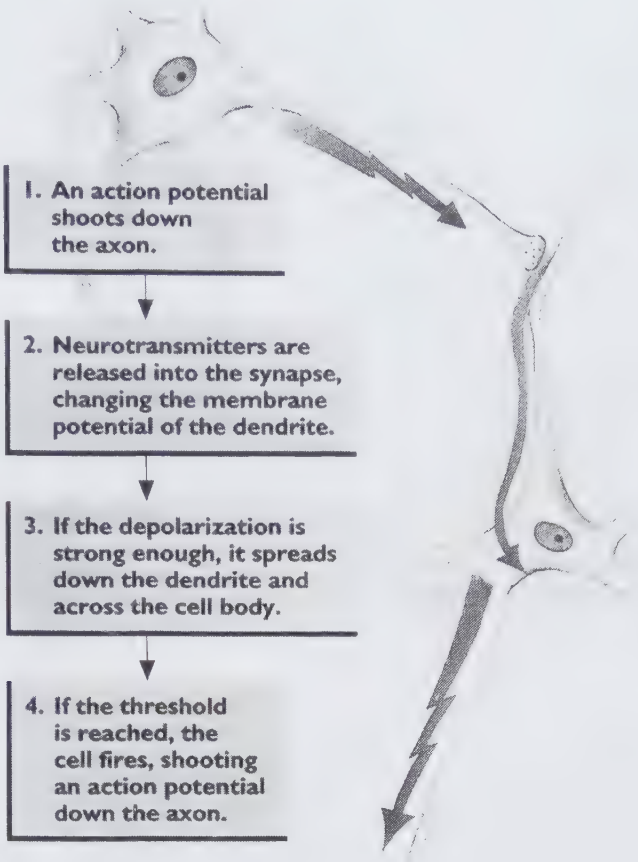


FIGURE 3.5

Communication Between Neurons

When a neuron fires, a self-propagating action potential shoots to the end of its axon, triggering the release of a neurotransmitter into the synapse. This stimulates neighboring cells. One type of stimulation is *excitatory,* causing depolarization of the neighboring cells. This depolarization, in turn, will cause those neurons to fire an action potential if threshold is reached. New evidence indicates that action potentials can also sometimes occur in dendrites.


1. An action potential shoots down the axon.
2. Neurotransmitters are released into the synapse, changing the membrane potential of the dendrite.
3. If the depolarization is strong enough, it spreads down the dendrite and across the cell body.
4. If the threshold is reached, the cell fires, shooting an action potential down the axon.

nication patterns also occur. Axons can signal to other axons or even directly to the cell body of another neuron; dendrites of one cell can send signals to the dendrites of other cells (Pinault, Smith, & Deschenes, 1997). These varied communication patterns allow the brain to conduct extremely complex information-processing tasks.

Neurotransmitters Unlike the communication down the axon, which uses electrochemical signals, communication at the synapse between neurons relies solely on chemicals. The transfer of information across a synapse is accomplished by chemicals called **neurotransmitters.** These chemicals are stored in numerous little "bags," called *vesicles,* at the tips of axons (see Figure 3.4). When an action potential reaches the end of an axon, a neurotransmitter is released into the synapse, where it spreads to reach the next, or *postsynaptic,* cell (see Figure 3.5).

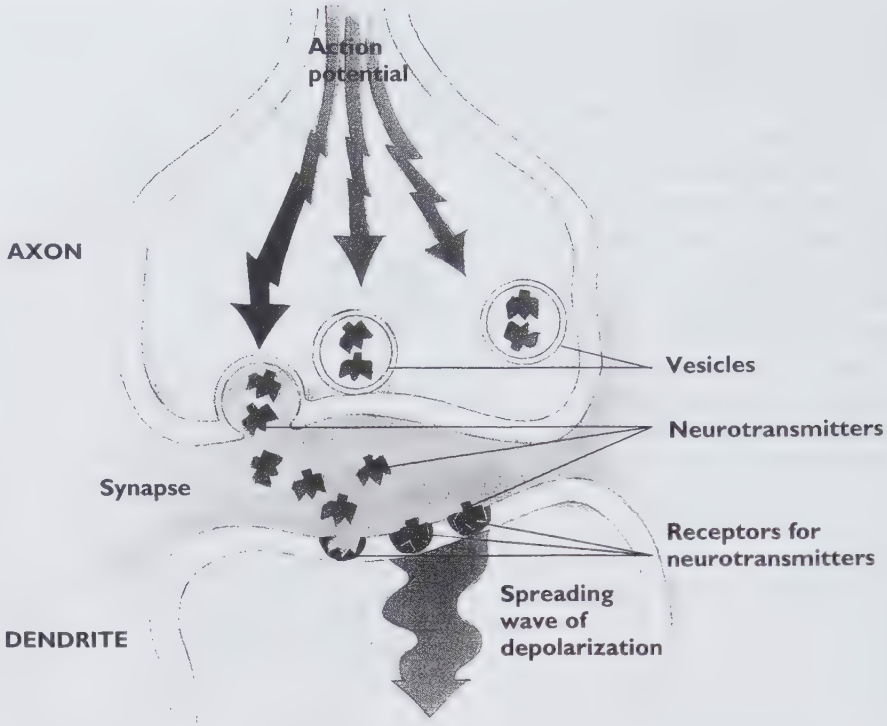
At the membrane of the postsynaptic cell, neurotransmitters attach to proteins called **receptors.** Like a puzzle piece fitting into its proper place, a neurotransmitter snugly fits, or "binds" to, its own receptors but not to receptors for other neurotransmitters (see Figure 3.6 on page 58). Although each receptor "recognizes" only one type of neurotransmitter, each neurotransmitter type can bind to several different receptor types. As a result, the same neurotransmitter can have different effects depending on the type of receptor to which it binds.

The binding of a neurotransmitter to a receptor stimulates channels in the postsynaptic cell to open (much like the sodium channels involved in action potentials), allowing ions to flow in or out. The ion channel may be an integral part of the receptor, allowing a rapid influx of ions, or the receptor may initiate slower chemical changes in the postsynaptic cell that eventually result in a change in ion flow. The flow of ions into and out of the postsynaptic cell produces a change in its membrane

FIGURE 3.6

The Relationship Between Neurotransmitters and Receptors

Neurotransmitters influence postsynaptic cells by stimulating special receptors on the surface of those cells' membranes. Each type of receptor receives only one type of neurotransmitter; the two fit together like puzzle pieces or like a key in a lock. Stimulation of these receptors by their neurotransmitter causes them, in turn, to either help or hinder the generation of a wave of depolarization in their cell's dendrites.



potential; thus, the chemical signal at the synapse creates an electrochemical signal within the postsynaptic cell.

Excitatory and Inhibitory Signals Scientists can record the extremely small electrochemical changes that occur as ions flow through a single ion channel, as Figure 3.7 illustrates (Sakmann, 1992). The change in the membrane potential of the dendrite or cell body of the postsynaptic cell is called the **postsynaptic potential.** It can make the cell either more likely or less likely to fire. If positively charged ions (such as sodium or calcium) flow into the neuron, it becomes slightly *less* polarized, or *depolarized.* Because depolarization of the membrane can lead the neuron to fire an action potential, a depolarizing postsynaptic potential is called an **excitatory postsynaptic potential,** or **EPSP.** However, if positively charged ions (such as potassium) flow out of the neuron (because the concentration of potassium is higher on the inside), or if negatively charged ions flow in, the neuron becomes slightly more polarized, or *hyperpolarized.* Hyperpolarization makes it less likely that the neuron will fire an action potential. For this reason, a hyperpolarizing postsynaptic potential is called an **inhibitory postsynaptic potential,** or **IPSP.**

FIGURE 3.7

Electrical Recording of a Single Sodium Channel

Scientists are now able to record the electrical changes that occur when a single sodium channel opens and closes. Using a tiny glass tube only 1/25,000th the diameter of a human hair, they suck up a small "patch" of cell membrane that contains a channel. When the channel opens, sodium ions flow through and cause the section of membrane to be less polarized. Amazingly, when neurotransmitter-sensitive ion channels are inserted into non-neural cells, those cells begin to behave like neurons when neurotransmitters are applied.

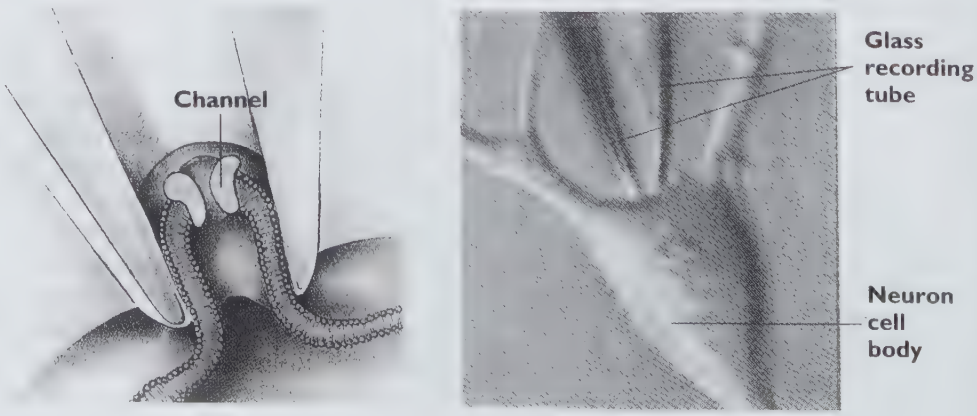
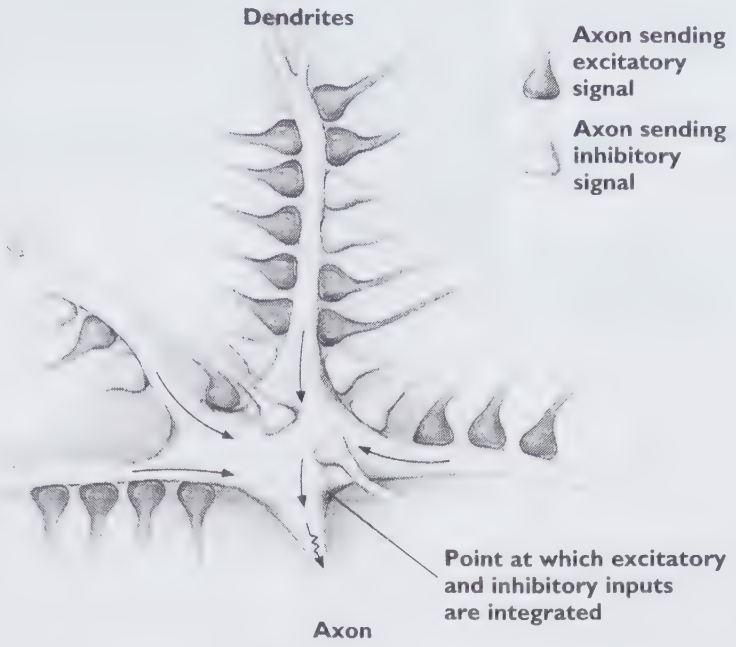


FIGURE 3.8

Integration of Neural Signals

Most of the signals that a neuron receives arrive at its dendrites or at its cell body. These signals, which typically come from many neighboring cells, can be conflicting. Some are excitatory, stimulating the cell to fire; others are inhibitory signals that tell the cell not to fire. Whether the cell actually fires or not at any given moment depends on whether excitatory or inhibitory messages predominate at the junction of the cell body and the axon.



The postsynaptic potential spreads along the membrane of the postsynaptic cell. But unlike the action potential in an axon, which remains at a constant strength, the postsynaptic potential fades as it goes along. Usually, it is not strong enough to pass all the way along the dendrite and through the cell body to the axon, so a single EPSP will not cause a neuron to fire. However, each neuron is constantly receiving EPSPs and IPSPs. The combined effect of rapidly repeated potentials or potentials from many locations can create a signal strong enough to reach the junction of the axon and cell body, a specialized region where new action potentials are generated.

Whether or not the postsynaptic cell fires and how rapidly it fires depend on whether, at a given moment, there are more excitatory ("fire") or more inhibitory ("don't fire") signals from other neurons at this junction (see Figure 3.8). Thus, as neurotransmitters transfer information across many neurons, each neuron constantly integrates or processes this information.

Several of the major neurotransmitters will be discussed later in this chapter, and in other chapters as well, because their effects touch on virtually every aspect of psychology. In the next chapter, for example, we describe some of the neurotransmitters used in pathways that convey pain messages throughout the brain and spinal cord. In Chapter 15, on psychological disorders, we discuss the role that neurotransmitters play in schizophrenia and depression. And in Chapter 16, on treatment, we consider how therapeutic drugs act on neurotransmitters and the cells they affect. Thinking itself requires communication among neurons, and neurotransmitters and their receptors are key links in this vital process.

Organization and Functions of the Nervous System

Impressive as individual neurons are (see "In Review: Neurons, Neurotransmitters, and Receptors"), an understanding of their functions requires that we look at the organization of groups of neurons. In the brain and spinal cord, neurons are organized into groups called **neural networks.** Many neurons in a network are closely connected, sending axons to the dendrites of many other neurons in the network. Signals from one network also go to other networks, and small networks are organized into bigger collections. By studying these networks, neuroscientists have begun to see that the nervous system conveys information not so much by the activity of single neurons

in review

NEURONS, NEUROTRANSMITTERS, AND RECEPTORS

Part	Function	Type of Signal Carried
Axon	Carries signals away from the cell body	The action potential, an all-or-none electrochemical signal, that shoots down the axon to vesicles at the tip of the axon, releasing neurotransmitters
Dendrite	Carries signals to the cell body	The postsynaptic potential, an electrochemical signal that fades as it moves toward the cell body
Synapse	Provides an area for the transfer of signals, usually between axon and dendrite	Chemicals that cross the synapse and reach receptors on another cell
Neurotransmitter	Chemical released by one cell that binds to the receptors on another cell	A chemical message telling the next cell to fire or not to fire its own action potential
Receptor	Proteins on cell membrane that receive chemical signals	Changes in the flow of ions through the cell membrane

sending single messages with a particular meaning, but by the activity of *groups* of neurons firing together in varying combinations. Thus, the same neurons may be involved in producing different patterns of behavior, depending on which combinations of them are active. Such combinations have been identified in the incredibly complex human brain (Sanes et al., 1995) and in the extremely simple nervous system of the sea slug (Xin, Weiss, & Kupfermann, 1996).

The groups of neurons in the nervous system that provide input about the environment are known as the senses, or **sensory systems.** These systems—including hear-

Nerve Cells in the Spinal Cord

Neurons in the central nervous system are connected to each other, forming complex communication networks.

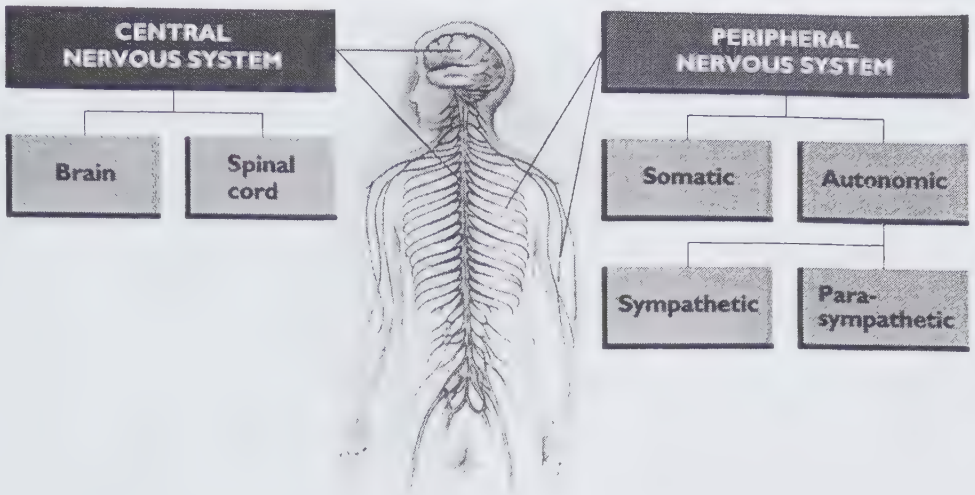


FIGURE 3.9

Organization of the Nervous System

The bone-encased central nervous system (CNS) is made up of the brain and spinal cord and acts as the body's central information processor, decision maker, and director of actions. The peripheral nervous system (PNS) includes all nerves not housed in bone and functions mainly to carry messages. The somatic subsystem of the PNS transmits sensory information to the CNS from the outside world and conveys instructions from the CNS to the muscles. The autonomic subsystem conveys messages from the CNS that alter the activity of organs and glands, and sends information about that activity back to the brain.

ing, vision, taste, smell, and touch—are described in the next chapter. Integration and processing of information occur mainly in the brain. Output flows through **motor systems,** which are the parts of the nervous system that influence muscles and other organs to respond to the environment.

The nervous system has two major divisions, which work together: the peripheral nervous system and the central nervous system (see Figure 3.9). The **peripheral nervous system (PNS),** which includes all of the nervous system that is not housed in bone, carries out sensory and motor functions. The **central nervous system (CNS)** is the part encased in bone. It includes the brain, which is inside the skull, and the spinal cord, which is inside the spinal column (backbone). The CNS is the "central executive" of the body; in other words, information is usually sent to the CNS to be processed and acted on. Let's take a closer look at these divisions of the nervous system.

THE PERIPHERAL NERVOUS SYSTEM: KEEPING IN TOUCH WITH THE WORLD

As shown in Figure 3.9, the peripheral nervous system has two components, each of which performs both sensory and motor functions.

The Somatic Nervous System

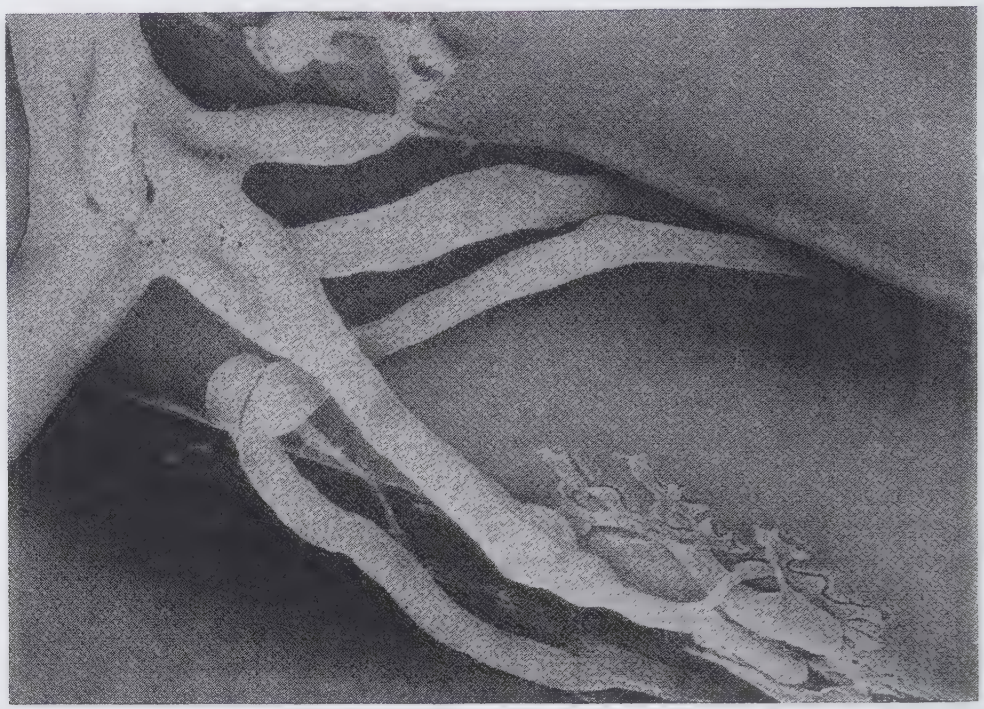
The first component is the **somatic nervous system;** it transmits information from the senses to the CNS and carries signals from the CNS to the muscles that move the skeleton. For example, when you lie in the sun at the beach, the somatic nervous system is involved in sending signals from the skin to the brain that become sensations of warmth. The somatic nervous system is also involved in every move you make. Neurons extend from the spinal cord to the muscles, where the release of a neurotransmitter onto them causes the muscles to contract. In fact, much of what we know about neurotransmitters was discovered in laboratory studies of this "neuromuscular junction," especially in the frog's hind leg. At the neuromuscular junction, the action of a neurotransmitter allows a quick response that can mean the difference between life and death, for a frog or anyone else.

The Autonomic Nervous System

The second component of the peripheral nervous system, the **autonomic nervous system,** carries messages back and forth between the CNS and the heart, lungs, and other organs and glands (Janig, 1996). These messages increase or decrease the activity of the organs and glands to meet varying demands placed on the body. As you lie

The Neuromuscular Junction

When nerve cells (shown here as green fibers) release neurotransmitters onto muscle tissue, the muscle contracts.



on the beach, it is your autonomic nervous system that makes your heart beat a little faster when an attractive person walks by and smiles.

The name *autonomic* means "autonomous" and suggests independent operation. This term is appropriate because, although the autonomic nervous system is influenced by the brain, it controls activities that are normally outside of conscious control, such as digestion and perspiration. The autonomic nervous system exercises this control through its two divisions: the sympathetic and parasympathetic branches. Generally, the *sympathetic system* mobilizes the body for action in the face of stress; the responses that result are sometimes collectively referred to as the "fight-or-flight" response. The *parasympathetic system* regulates the body's functions to conserve energy. Thus, these two branches often create opposite effects. For example, the sympathetic nervous system can make the heart beat faster, whereas the parasympathetic nervous system can slow it down.

The functions of the autonomic nervous system may not get star billing, but you would miss them if they were gone. Just as a race-car driver is nothing without a good pit crew, the somatic nervous system depends on the autonomic nervous system in order to get its job done. For example, when you want to move your muscles, you create a demand for energy; the autonomic nervous system fills the bill by increasing sugar fuels in the bloodstream. If you decide to stand up, you need increased blood pressure so that your blood does not flow out of your brain and settle in your feet. Again, the autonomic nervous system makes the adjustment. Disorders of the autonomic nervous system can make people sweat uncontrollably or faint whenever they stand up; they can also lead to other problems, such as an inability to have sex. We examine the autonomic nervous system in more detail in Chapter 11, on motivation and emotion.

THE CENTRAL NERVOUS SYSTEM: MAKING SENSE OF THE WORLD

The amazing speed and efficiency of the neural networks that make up the central nervous system—the brain and spinal cord—have prompted many people to compare it to the central processor in a computer. In fact, to better understand how human and

other brains work and how they relate to sensory and motor systems, *computational neuroscientists* have created neural network models on computers (Koch & Davis, 1994). Figure 3.10 shows an example of how the three components of the nervous system (input, processing, and output) might be represented in a neural network model. Notice that input simultaneously activates several paths in the network, so that information is processed at various places at the same time. Accordingly, the activity of these models is described as *parallel distributed processing.* In the chapters on sensation, perception, learning, and memory, we describe how parallel distributed processing often characterizes the activity of the brain. Although neural network models were initially intended to help scientists better understand the nervous system, the principles of neural networks have been applied to a variety of problems that are not directly related to neurons or the brain. Specifically, neural network models can be programmed into computers, allowing them to perform functions that previously only humans could do. For example, using neural networks, computers are able to determine the quality of pork from scans of pig carcasses (Berg, Engel, & Forrest, 1998) and to predict which cancer patients will relapse after chemotherapy (Burke et al., 1998).

Neural network models are neatly laid out like computer circuits or the carefully planned streets of a new suburb, but the flesh-and-blood central nervous system is more difficult to follow. In fact, the CNS looks more like Boston or Paris, with distinct neighborhoods, winding back streets, and multilaned expressways. Its "neighborhoods" are collections of neuronal cell bodies called **nuclei.** The "highways" of the central nervous system are made up of axons that travel together in bundles called **fiber tracts** or **pathways.** Like a freeway ramp, the axon from a given cell may merge with and leave fiber tracts, and it may send branches into other tracts. The pathways travel from one nucleus to other nuclei, and scientists have learned much about how the brain works by determining the anatomical connections among nuclei. To begin our description of some of these nuclei and anatomical connections, let's consider a practical example of nervous system functioning.

At 6 A.M., your alarm goes off. The day begins innocently enough with what appears to be a simple case of information processing. Input in the form of sound from the alarm clock is received by your ears, which convert the sound into neural signals that reach your brain. Your brain compares these signals with previous experiences stored in memory and correctly associates the sound with "alarm clock." However, your output is somewhat impaired because your brain's activity has not yet reached the waking state. It directs your muscles poorly: Stumbling into the kitchen, you touch a glowing heating element as you reach for the coffeepot. Now things get more lively. Heat energy activates sensory neurons in your fingers, and action potentials flash along fiber tracts going into the spinal cord.

The Spinal Cord

The **spinal cord** receives signals from peripheral senses, including pain and touch from the fingertips, and relays those signals to the brain through fibers within the cord. Neurons in the spinal cord also carry signals downward, from the brain to the muscles.

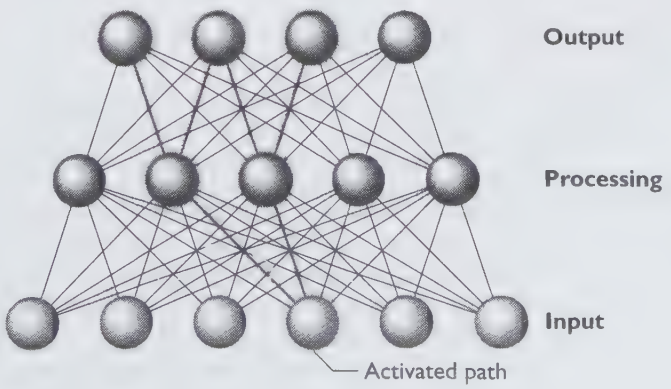


FIGURE 3.10

A Neural Network Model

A simple, computer-based neural network model includes three fundamental components: an input layer, a processing layer, and an output layer. More complex models may have additional processing layers. Each element in each layer is connected to every other element in the other layers. In a typical model, the connections can be either excitatory or inhibitory, and the strengths of connections between the elements can be modified depending on the results of the output; in other words, the network has the capacity to learn. Research on neural network models is part of *cognitive science,* whose linkages with psychology were mentioned in Chapter 1.

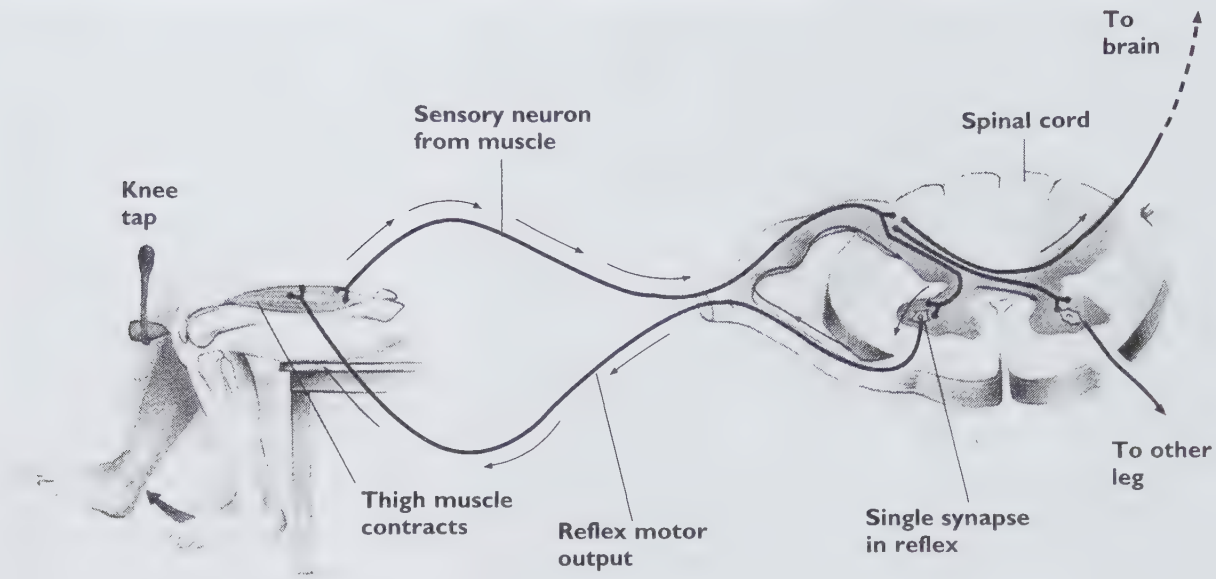


FIGURE 3.11

A Reflex Pathway

A tap on the knee sets off an almost instantaneous sequence of events, beginning with the stimulation of sensory neurons that respond to movement in the muscle. When those neurons fire, their axons, which end in the spinal cord, stimulate the firing of neurons with axons ending in the thigh muscle. The result is a contraction of the thigh muscle and a kicking of the lower leg and foot. Information about the knee tap and about what the leg has done also ascends to the cerebral cortex, but the reflex occurs without any guidance from the brain.

In addition, cells of the spinal cord can direct some simple behaviors without instructions from the brain. These behaviors are called **reflexes** because the response to an incoming signal is directly "reflected" back out (see Figure 3.11).

For example, when you touched that heating element, impulses from sensory neurons in your fingers reflexively activated motor neurons, which caused muscles in your arm to contract and quickly withdraw your hand. Because spinal reflexes like this one include few time-consuming synaptic links, they are very fast. And because spinal reflexes occur without instructions from the brain, they are considered involuntary; but they also send action potentials along fiber tracts going to the brain. Thus, you officially "know" you have been burned a fraction of a second after your reflex got you out of trouble.

The story does not end there, however. When a simple reflex set off by touching something hot causes one set of arm muscles to contract, an opposing set of muscles relaxes. If this did not happen, the arm would go rigid. Furthermore, muscles have receptors that send impulses to the spinal cord to let it know how extended they are, so that a reflex pathway can adjust the muscle contraction to allow smooth movement. Thus, the spinal cord is another example of a *feedback system,* a series of processes in which information about the consequences of an action goes back to the source of the action so that adjustments can be made.

In the spinal cord, sensory neurons are often called *afferent* neurons and motor neurons are termed *efferent* neurons, because *afferent* means "coming toward" and *efferent,* "going away." To remember these terms, notice that *afferent* and *approach* both begin with *a; efferent* and *exit* both begin with *e.*

The Brain

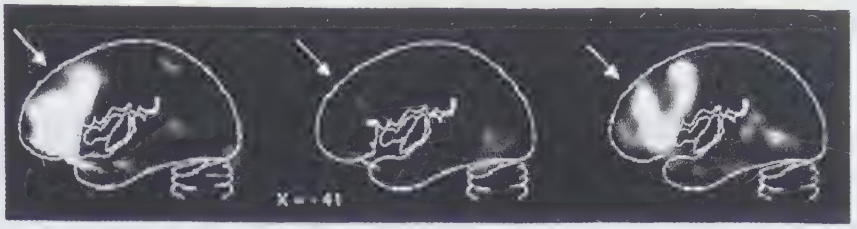
The brain has three major subdivisions: the hindbrain, the midbrain, and the forebrain. Figures 3.12 and 3.13 and Table 3.1 (on page 66) describe and illustrate some of the techniques scientists use to learn about these structures and how they function.

The Hindbrain Incoming signals first reach the **hindbrain,** which is actually a continuation of the spinal cord. As you can see in Figure 3.14 (on page 67), the hindbrain lies inside the skull. Blood pressure, heart rate, breathing, and many other vital autonomic functions are controlled by nuclei in the hindbrain, particularly in an area called the **medulla.** Threading throughout the hindbrain and into the midbrain is a collection of cells that are not arranged in any well-defined nucleus. Because the collection

FIGURE 3.12

PET Scans of Changes in Brain Activity with Practice

In a study of brain activity, PET scans were conducted while participants performed a simple mental task. Specifically, they were asked to generate a verb after being presented with a noun (e.g., dog-walk). The participants learned to generate verbs more quickly with practice—as reflected in changes in their brain activity. Before practice on this task, the left frontal cortex was activated during verb generation (Section A). After practice, the frontal cortex was no longer activated while the identical task was performed (Section B), but when participants were presented with a list of new nouns, the frontal cortex was again activated (Section C). Similar changes in brain activation can be observed in PET scans of people learning a motor task (Petersen et al., 1998).



(A) Before practice (B) After practice (C) New list of nouns

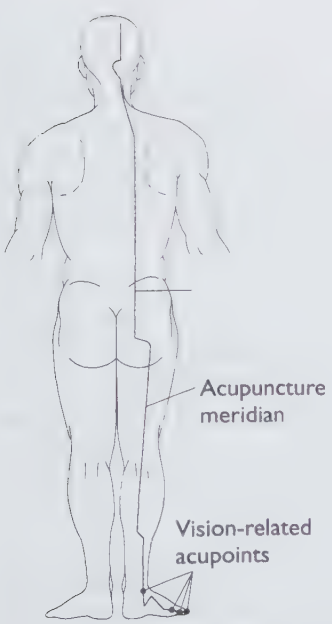
BRAIN ACTIVITY IN LEFT PREFRONTAL CORTEX

Source: Petersen et al. (1998), Figure 3.

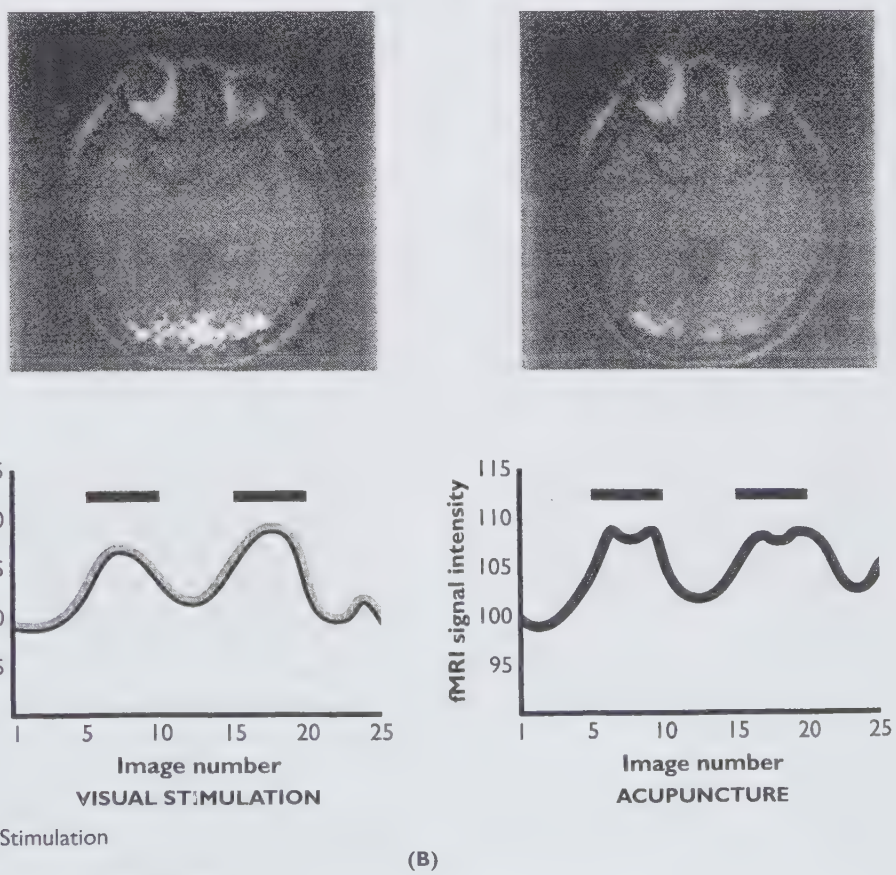
FIGURE 3.13

The Use of Functional MRI to Bridge Eastern Medicine and Western Neuroscience

Acupuncture is an ancient Asian medical practice in which physical disorders are treated by stimulating specific locations in the skin with needles. Most acupuncture points are distant from the organ being treated. For example, vision problems are treated by the insertion of needles at "acupoints" in the foot (Section A). Recently, scientists have investigated the role of the brain in the effects of acupuncture (Cho et al., 1998). As shown in Section B, a functional MRI (fMRI) reveals that acupuncture stimulation of the acupoints in the foot related to visual problems activates the same area of the brain that responds to light reaching the eyes. However, stimulation of points on the foot only 2 centimeters from the visual acupoint region have no effect on this vision-related brain area.



(A)



(B)

Source: Cho et al. (1998), Figures 2 and 4.

TABLE 3.1

Noninvasive Techniques for Studying Human Brain Function and Structure

Neuroscientists have developed a number of techniques for studying the structure and functions of the brain.

Technique	What It Shows	Advantages (+) and Disadvantages (−)
EEG (electroencephalogram) Multiple electrodes are pasted to outside of head	A single line that charts the summated electrical fields resulting from the activity of billions of neurons	+Detects very rapid changes in electrical activity, allowing analysis of stages of cognitive processing −Provides poor spatial resolution of source of electrical activity
PET (positron emission tomography) and SPECT (single photon emission computed tomography) Positrons and photons are emissions from radioactive substances	An image of the amount and localization of any molecule that can be injected in radioactive form, such as neurotransmitters, drugs, tracers for blood flow or glucose use (which indicate specific changes in neuronal activity)	+Allows functional and biochemical studies +Provides visual image corresponding to anatomy −Requires exposure to low levels of radioactivity −Provides spatial resolution better than that of EEG but poorer than that of MRI −Cannot follow rapid changes (faster than 30 seconds)
MRI (magnetic resonance imaging) Exposes the brain to magnetic field and measures radiofrequency waves	Traditional MRI provides high-resolution image of brain anatomy, and newer functional MRI (fMRI) provides images of changes in blood flow (which indicate specific changes in neuronal activity)	+Requires no exposure to radioactivity +Provides high spatial resolution of anatomical details (<1 mm) +Provides high temporal resolution (<1/10 of a second)

resembles a net, it is called the **reticular formation** (*reticular* means "netlike"). This network is very important in altering the activity of the rest of the brain. It is involved, for example, in arousal and attention; if the fibers from the reticular system are disconnected from the rest of the brain, a person goes into a permanent coma. Some of the fibers carrying pain signals from the spinal cord make connections in the reticular formation, which immediately arouses the rest of the brain from sleep. Within seconds, the hindbrain causes your heart rate and blood pressure to increase.

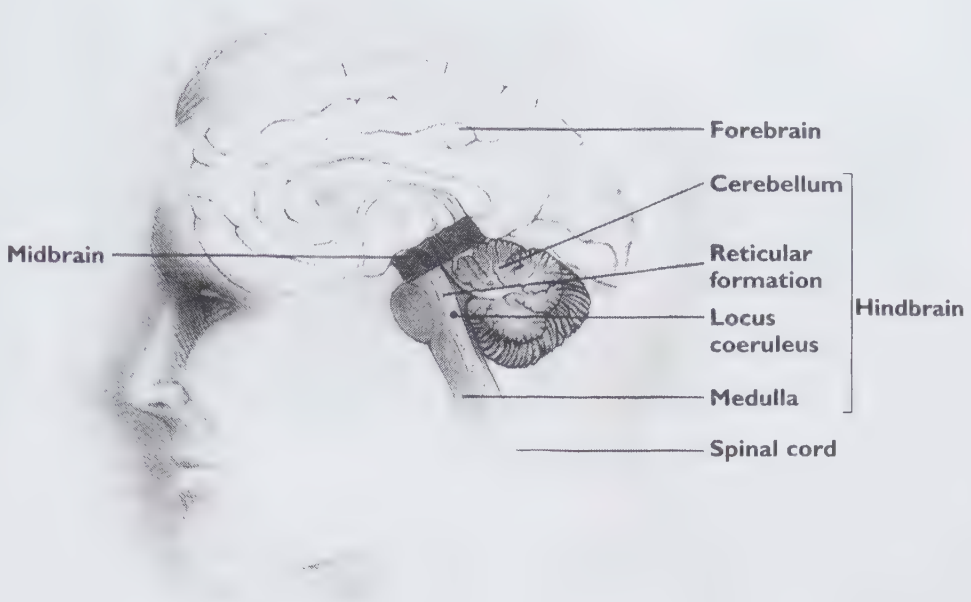
Activity of the reticular formation also leads to activity in a small nucleus within it called the **locus coeruleus** (pronounced "LO-kus seh-ROO-lee-us"), which means "blue spot" (see Figure 3.14). There are relatively few cells in the locus coeruleus—only about 30,000 of the 100 billion or so in the human brain (Foote, Bloom, & Aston-Jones, 1983)—but each sends out an axon that branches extensively, making contact with as many as 100,000 other cells. Studies of rats, monkeys, and humans suggest that the locus coeruleus is involved in directing attention (Aston-Jones, Chiang, & Alexinsky, 1991; Smythies, 1997). In humans, abnormalities in the locus coeruleus have been linked to depression (Leonard, 1997).

The **cerebellum** is also part of the hindbrain. It allows the eyes to track a moving target accurately (Krauzlis & Lisberger, 1991), and it may be the storehouse for well-rehearsed movements, such as those associated with ballet, piano playing, and athletics (McCormick & Thompson, 1984). Indeed, for a long time its primary function was thought to be control of finely coordinated movements, such as threading a needle.

FIGURE 3.14

Major Structures of the Brain

This view from the side of a section cut down the middle of the brain reveals the forebrain, midbrain, hindbrain, and spinal cord. Many of these subdivisions do not have clear-cut borders, since they are all interconnected by fiber tracts. Indeed, though beautifully adapted to its functions, the brain was not the work of a city planner. Its anatomy reflects its evolution over millions of years. Newer structures (such as the cerebral cortex, which is the outer surface of the forebrain) that handle higher mental functions were built on older ones (like the medulla) that coordinate heart rate, breathing, and other more basic functions.



However, because the human cerebellum has grown more in size than any other brain structure, researchers have begun to rethink and reinvestigate the cerebellum's role in more uniquely human tasks such as language and symbolic thought. Recent work on the function of the cerebellum highlights the fact that there are different ways to think about what various parts of the brain do. For instance, you can think of coordinated movements simply as "motor functioning" or as an example of the more general activity of "sequencing and timing" (Gibbon et al., 1997). The importance of sequencing has become increasingly apparent in the study of nonmovement activities, particularly language. To speak fluently, you must put together a sequence of words rapidly and in the correct order and temporal rhythm. It now appears that the cerebellum plays a vital role in normal speech by integrating moment-to-moment feedback about vocal sounds with a sequence of precise movements of the lips and tongue (Leiner, Leiner, & Dow, 1993). When this process of integration and sequencing is disrupted, stuttering can result. Even nonstutterers who hear their own speech with a slight delay begin to stutter. (This is why radio talk-show hosts ask callers to turn off their radios. A momentary gap occurs before the shows are actually broadcast, and listening to the delayed sound of their own voice on the radio can cause callers to stutter.) Recent MRI studies indicate that the cerebellum is one of a number of brain regions that are concurrently involved in stuttering (Fox et al., 1996).

Reflexes and feedback systems are important to the functioning of the hindbrain, just as they are in the spinal cord. For example, if blood pressure drops, heart action increases reflexively to compensate for that drop. If you stand up very quickly, your blood pressure can drop so suddenly that it produces lightheadedness until the hindbrain reflex "catches up." If the hindbrain does not activate autonomic nervous system mechanisms to increase blood pressure, you will faint.

The Midbrain Above the hindbrain is the **midbrain.** In humans it is a small structure, but it serves some very important functions. Certain types of automatic behaviors that integrate simple movements with sensory input are controlled there. For example, when you move your head, midbrain circuits allow you to move your eyes smoothly in the opposite direction, so that you can keep your eyes focused on an object despite the movement of your head. And when a loud noise causes you to turn your head reflexively and look in the direction of the sound, your midbrain circuits are at work.

One vital nucleus in the midbrain is the **substantia nigra,** meaning "black substance." This small area and its connections to the **striatum** (named for its "striped" appearance) in the forebrain are necessary for the smooth initiation of movement. Without them, you would find it difficult, if not impossible, to get up out of a chair, lift your hand to swat a fly, move your mouth to form words, or, yes, reach for that coffeepot at 6:00 A.M.

The Forebrain Like the cerebellum, the human **forebrain** is another region that has grown out of proportion to the rest of the brain, so much so that it folds back over and completely covers the other parts. It is responsible for the most complex aspects of behavior and mental life. As Figure 3.15 shows, the forebrain includes structures known as the *diencephalon* and the *cerebrum;* the latter is covered by the *cerebral cortex.*

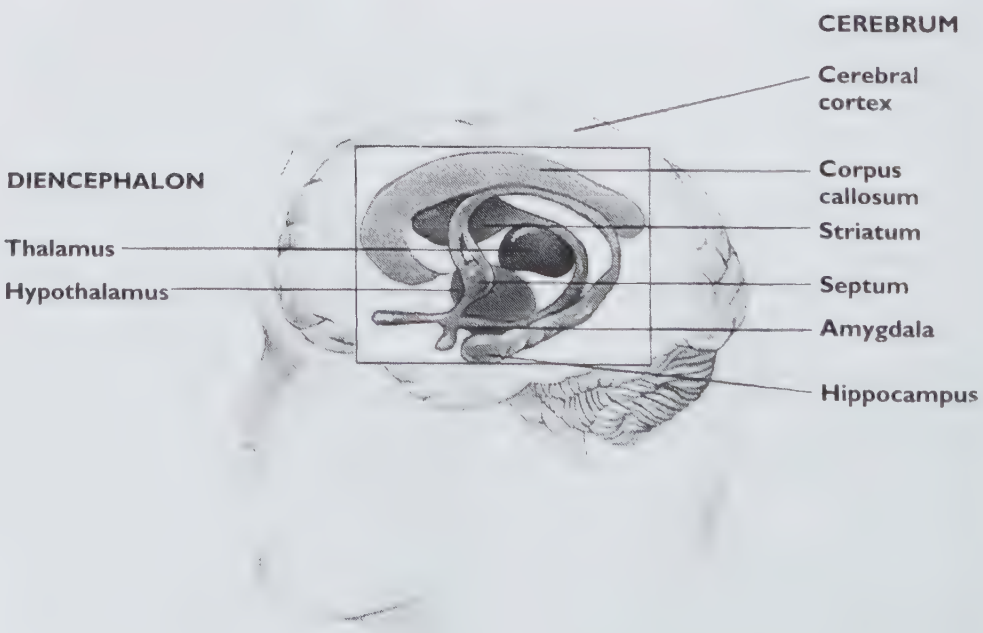
The diencephalon includes two structures deep within the brain. The first is the **thalamus,** which relays pain signals from the spinal cord as well as signals from the eyes and most other sense organs to upper levels in the brain. It also plays an important role in processing and making sense out of this information. The other is the **hypothalamus,** which lies under the thalamus (*hypo-* means "under") and is involved in regulating hunger, thirst, and sex drives. It has many connections to and from the autonomic nervous system and the endocrine system, as well as to other parts of the brain. Destruction of one section of the hypothalamus results in an overwhelming urge to eat. Damage to another area of the male's hypothalamus causes the sex organs to degenerate and the sex drive to decrease drastically. There is also a fascinating part of the hypothalamus that contains the brain's own timepiece: the **suprachiasmatic nuclei.** The suprachiasmatic nuclei keep an approximately twenty-four-hour clock that determines your biological rhythms. (You may be familiar with some of the many bodily processes that vary on a twenty-four-hour cycle, such as mental and physical performance, hormone levels, sensitivity to alcohol, and pain tolerance.) We discuss the functions of the hypothalamus in more detail in the chapter on motivation and emotion.

The largest part of the forebrain is the **cerebrum.** Two structures within it, the **amygdala** and **hippocampus,** are important in memory and emotion. For example, the amygdala associates features of stimuli from two different senses, as when we link the shape and feel of objects in memory (Murray & Mishkin, 1985). It is also involved

FIGURE 3.15

Some Structures of the Forebrain

The forebrain is divided into the cerebrum and the diencephalon. The structures of the cerebrum are covered by the outer "bark" of the cerebral cortex. This diagram shows some of the structures that lie deep within the cerebrum, as well as structures of the diencephalon.



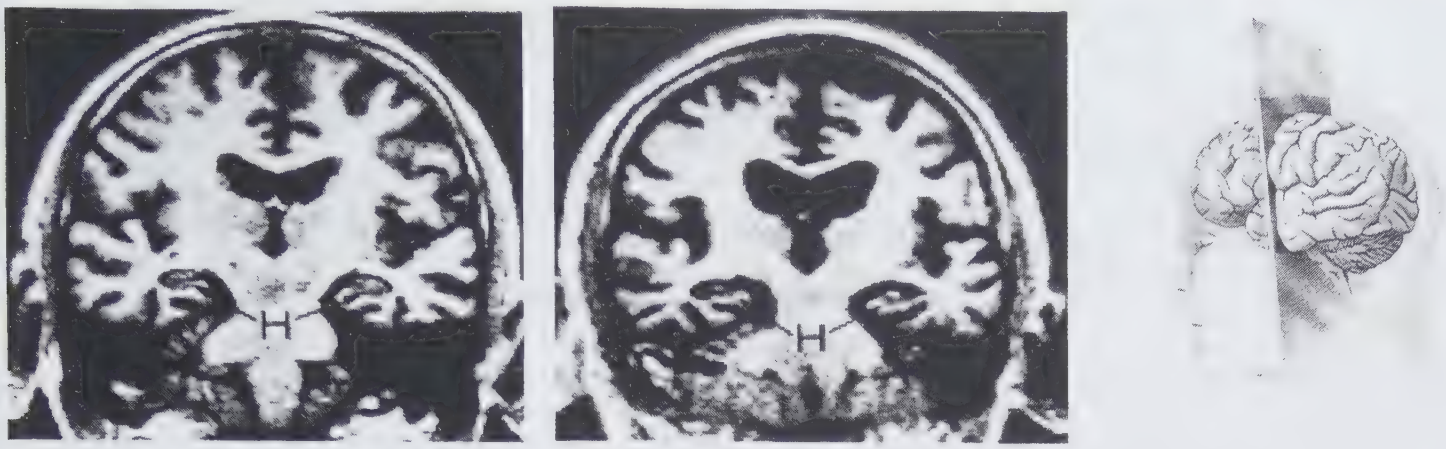


FIGURE 3.16

Alzheimer's Disease and the Hippocampus

These magnetic resonance images of living brains show that, compared to the normal person (left), a patient with Alzheimer's disease shows degeneration in the hippocampus (marked H). On average, the hippocampus of Alzheimer's patients has been found to be substantially smaller than in normal people; indeed, a smaller than average hippocampus in the elderly predicts the onset of the disease (Jack et al., 1999). Damage to the hippocampus may be responsible for the severe memory impairments in Alzheimer's patients.

Source: Seab et al., 1988.

in fear and other emotions (Davis, Rainnie, & Cassell, 1994; LeDoux, 1995); its activity has been found to be altered in people suffering from posttraumatic stress disorder, which is described in Chapter 13. Damage to the hippocampus results in an inability to form new memories of events. In one case, a patient known as R.B. suffered a stroke (an interruption of blood flow to the brain) that damaged only his hippocampus. Although tests indicated that his intelligence was above average and he could recall old memories, he was almost totally unable to build new memories (Squire, 1986). Research using MRI scans and tests of the decline of memory function in normal elderly people suggests that memory ability is correlated with the size of the hippocampus (Golomb et al., 1994); a small hippocampus predicts severe memory problems even before they are evident (Kaye et al., 1997). Animal studies have also shown that damage to the hippocampus within a day of a mildly painful experience erases memories of the experience, but that removal of the hippocampus several days after the experience has no effect on the memory. Thus, memories are not permanently stored in the hippocampus but are transferred elsewhere. As described in Chapter 7, your storehouse of memories depends on the activities of many parts of the brain.

The hippocampus and amygdala, and other interconnected structures such as the hypothalamus and the septum, are part of the **limbic system.** The limbic system plays an important role in regulating emotion and memory. Studies of the brains of people who died from Alzheimer's disease have found severe degeneration of neurons in the hippocampus and other limbic structures (see Figure 3.16). This may explain why Alzheimer's disease is a major cause of *dementia,* the deterioration of cognitive capabilities often associated with aging. About 10 percent of people over the age of sixty-five, and more than 30 percent of people over eighty-five, suffer from this disorder (Small et al., 1997). The financial cost of Alzheimer's disease is more than $100 billion a year (Small et al., 1997); the cost in human suffering is incalculable. Thus, the search for its causes and cures has a high priority among researchers who study the brain.

FOCUS ON RESEARCH METHODS

Manipulating Genes in Animal Models of Human Disease

About ninety years ago a German neurologist, Alois Alzheimer, conducted a postmortem examination of the brain of a woman who died after years of progressive mental deterioration and dementia. He was trying to find the cause of her disorder. His examination disclosed that cells in her cerebral cortex were bunched up like a rope tied in knots and that cellular debris had

collected around the affected nerves. These features came to be known as tangles and plaques. *Tangles* are twisted fibers within neurons; their main protein component is called *tau. Plaques* are deposits of protein and parts of dead cells found between neurons. The major component of plaques is a small protein called *beta-amyloid,* which is produced from a larger protein called beta-amyloid precursor protein. Since the discovery of these proteins, researchers have been trying to discover their role in the disease named after this German doctor—Alzheimer's disease.

What was the researchers' question?

One specific question that researchers have addressed is whether the biochemicals found in plaques and tangles are the causes of Alzheimer's disease.

As noted in Chapter 2, a causal relationship cannot be inferred from a correlation. Therefore, to discover if beta-amyloid and tau might cause the death of neurons seen in Alzheimer's disease, researchers needed to conduct controlled experiments. As also noted in Chapter 2, experiments involve manipulating an independent variable and measuring its effect on a dependent variable. In this case, the experiment would involve creating plaques and tangles (the independent variable) and looking for their effects on memory (the dependent variable). Because such experiments cannot ethically be conducted on humans, scientists began looking for an "animal model" of Alzheimer's disease. However, progress in finding the causes of Alzheimer's was slowed by the lack of Alzheimer's-like conditions in *any* species of animal.

How did the researchers answer the question?

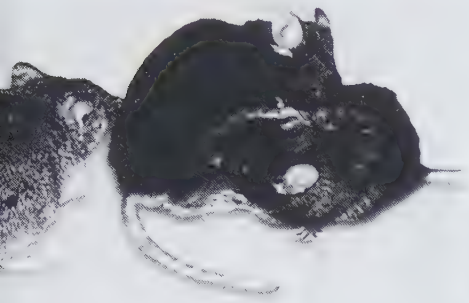
Previous studies of the genes of people with Alzheimer's disease had revealed that a mutation in the beta-amyloid precursor protein was associated with the disease. However, many Alzheimer's patients exhibited mutations not in this protein but in another one, which researchers called "presenilin" because it was associated with senility. (It turns out that presenilin is related to Alzheimer's because it affects the way in which beta-amyloid precursor protein is modified.) At this point, the researchers hoped to determine whether these mutated proteins actually cause the brain damage and memory impairment associated with Alzheimer's disease. Armed with new genetic engineering tools, they were able to create, literally, an animal model of Alzheimer's with mutated human genes.

The first attempts to create this animal model involved the insertion of a mutant form of beta-amyloid precursor protein into the cells of mice. If Alzheimer's disease is caused by faulty beta-amyloid precursor protein, so the logic went, inserting the gene for this faulty protein into mouse cells should cause deposits of beta-amyloid and the loss of neurons in the same parts of the brain as those seen in human Alzheimer's victims. No such changes should be observed in a control group of untreated animals. Of course, finding this result just once is not enough; an experiment's results must be replicable in order to be reliable.

What did the researchers find?

Indeed, in 1992, a group of scientists reported success in creating a model of Alzheimer's disease in mice, only to retract their statements when they could not repeat their results. Three years later researchers at a biotechnology company encountered a different problem. Although they succeeded in implanting the faulty protein into mice and found damage characteristic of Alzheimer's disease (Games et al., 1995), they did not observe any memory impairment in the mice.

More recently, however, other scientists have found that a variety of different mutations of beta-amyloid precursor protein inserted into mice produce both brain damage and memory impairment (Hsiao et al., 1996; Nalbantoglu et al., 1997). One group



Gene Manipulation in Mice

In one study, the gene for a particular type of neurotransmitter receptor was "knocked out" in these black mice. As shown here, the animals were much more aggressive than a control group of brown mice (Nelson et al., 1995).

subsequently claimed that the best animal model of Alzheimer's appears to involve mice with mutations in both beta-amyloid precursor protein and presenilin. These mice exhibit both severe brain pathology and memory impairment at a younger age than that seen in other experiments (Holcomb et al., 1998). Another group has claimed that its model better mimics the tau-containing tangles of Alzheimer's disease in humans (Sturchler-Pierrat et al., 1997). Ultimately, comparisons of results from many different experiments will determine which animal model of the disease is best. The scientists will then use that model to evaluate the critical roles of mutations in beta-amyloid precursor protein, presenilin, and tau in causing Alzheimer's disease.

What do the results mean?

This research is important not only because it might eventually solve the mystery of Alzheimer's disease, but also because it illustrates the power of experimental modification of animal genes for testing all kinds of hypotheses about biological factors influencing behavior. Besides *inserting* new or modified genes into brain cells, scientists can manipulate an independent variable by "knocking out" specific genes, then looking at the effect on dependent variables. One research team has shown, for example, that knocking out a gene for a particular type of neurotransmitter receptor causes mice to become obese and to overeat even when given appetite-suppressant drugs (Tecott et al., 1995). And genetic elimination of another type of receptor in mice canceled out the stimulating effects of cocaine (Xu et al., 1996). Of course, researchers must be careful not to inadvertently affect other genes while modifying the particular gene they are interested in. And they must be sure that the modified gene has not influenced the mice's behavior in unexpected and important ways. For example, if the gene significantly affects sensory or motor functions, a behavioral change could mistakenly be attributed to a change in brain function. (After all, a mouse with defective legs cannot run through a memory maze.) Careful behavioral analyses of the mouse model of Alzheimer's will also be needed to determine what components of memory processes are impaired.

What do we still need to know?

The scarcity of animal models of obesity, drug addiction, Alzheimer's disease, and other problems has impeded progress in finding biological treatments for them. In the case of Alzheimer's, for example, only one type of drug has had any effect on memory impairment, and its effects are quite minor (Small et al., 1997). As animal models for these conditions become more available through gene modification techniques, they will pave the way for new types of animal studies that are directly relevant to human problems. The next challenge will be to use these animal models to develop and test treatments that might effectively be applied to humans.

The Cerebral Cortex

So far, we have described some key structures *within* the forebrain; now we turn to a discussion of other structures on its surface. The outermost part of the cerebrum appears rather round and has right and left halves that are similar in appearance. These halves are called the **cerebral hemispheres.** The outer part of the cerebral hemispheres, the cerebral cortex, has a surface area of one to two square feet—an area that is larger than it looks because of the folds that allow the cortex to fit compactly inside the skull. The **cerebral cortex** is much larger in humans than in most other animals (dolphins are an exception). It is associated with the analysis of information from all the senses, control of voluntary movements, higher-order thought, and other complex aspects of human behavior and mental processes.

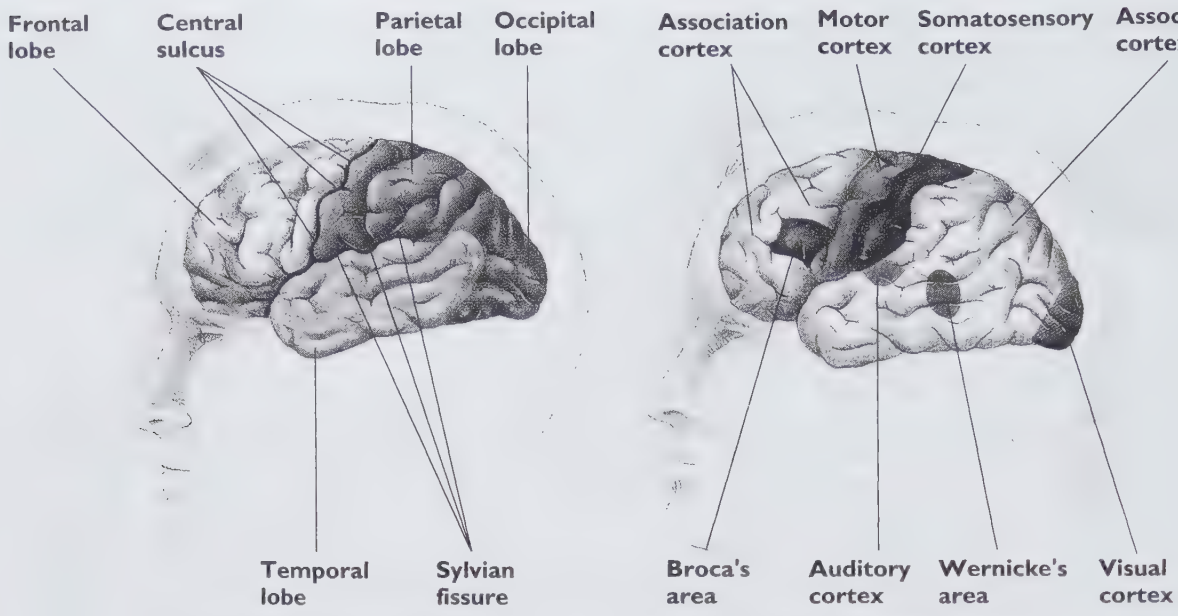


FIGURE 3.17

The Cerebral Cortex (viewed from the left side)

The ridges (gyri) and valleys (sulci) are landmarks that divide the cortex into four lobes: the frontal, the parietal, the occipital, and the temporal. These terms describe anatomical regions, but the cortex is also divided in terms of function. These functional areas include the motor cortex (which controls movement), sensory cortex (which receives information from the senses), and association cortex (which integrates information). Also illustrated are Wernicke's area, which is involved in the interpretation of speech, and Broca's area, a region vital to the production of speech. (These two areas are found only on the left side of the cortex.)

LINKAGES

A Large Cortex

The dolphin is one of the only mammals whose cerebral cortex is larger than that of humans. As discussed in Chapter 8, this characteristic has led some psychologists to study language abilities in dolphins.

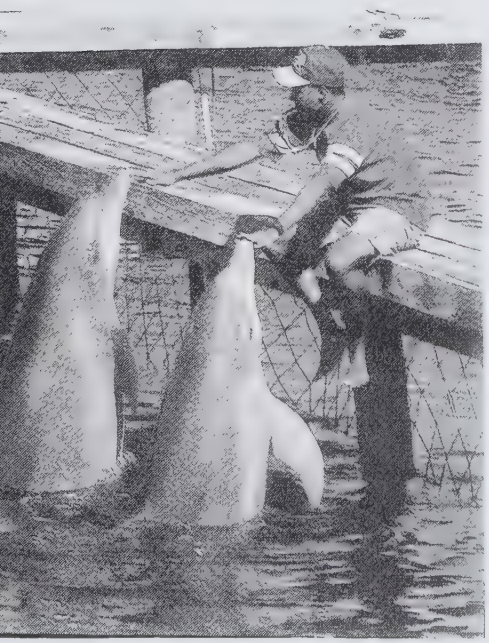
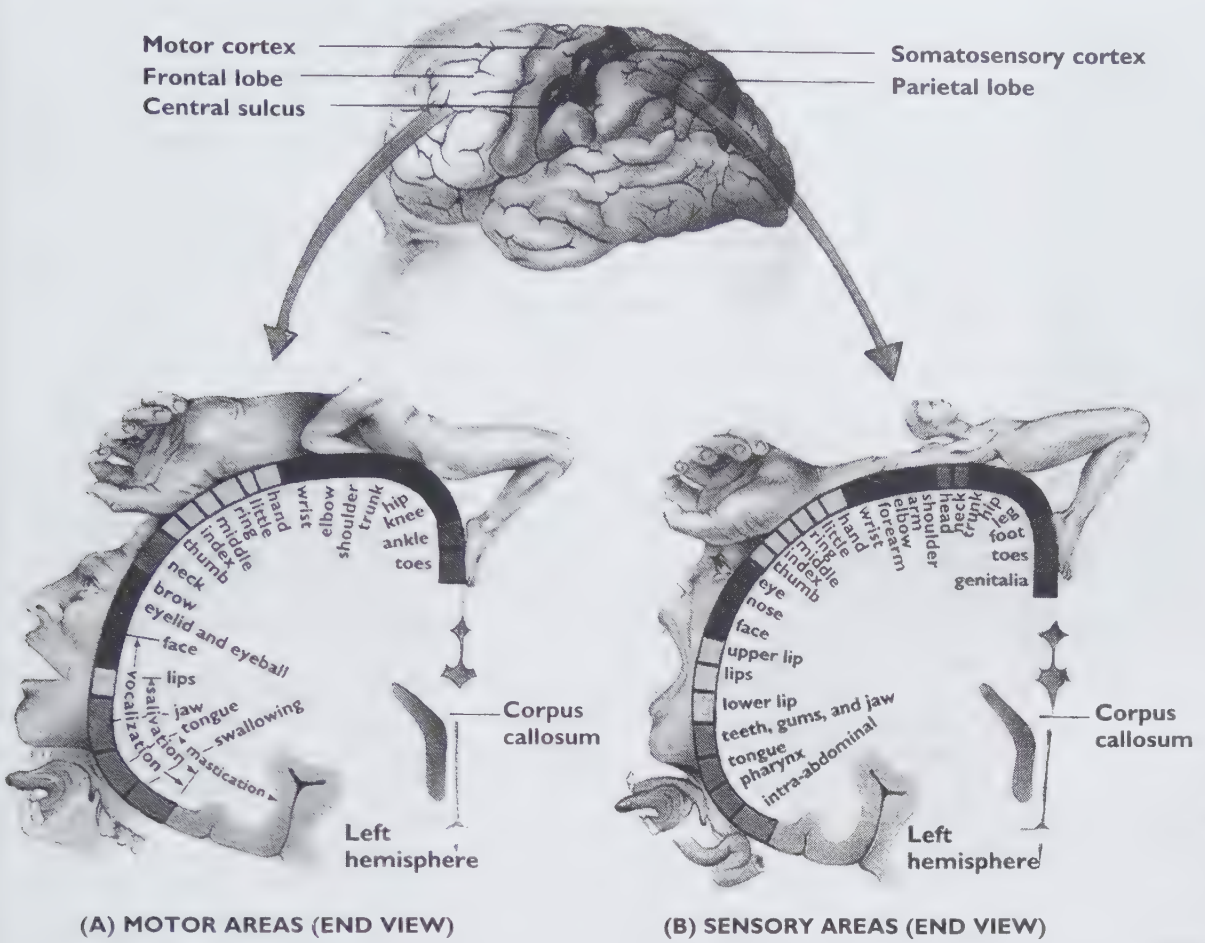


Figure 3.17(A) shows the *anatomical* or physical features of the cerebral cortex. The folds of the cortex give the surface of the human brain its wrinkled appearance, its ridges and valleys. The ridges are called *gyri* and the valleys are called *sulci* or *fissures.* As you can see in the figure, several deep sulci divide the cortex into four areas: the *frontal, parietal, occipital,* and *temporal* lobes. Thus, the gyri and sulci provide landmarks for describing the appearance of the cortex. Figure 3.17(B) depicts the areas of the cerebral cortex in which various *functions* or activities occur. The functional areas do not exactly match the anatomical areas, inasmuch as some functions occur in more than one area. Three of these functional areas—the sensory cortex, the motor cortex, and the association cortex—are discussed below, along with related areas.

Sensory Cortex The **sensory cortex** lies in the parietal, occipital, and temporal lobes and is the part of the cerebral cortex that receives information from our senses. Different regions of the sensory cortex receive information from different senses. Visual information is received by the *visual cortex,* made up of cells in the occipital lobe; auditory information is received by the *auditory cortex,* made up of cells in the temporal lobe; and information from the skin about touch, pain, and temperature is received in the *somatosensory cortex,* made up of cells in the parietal lobe.

Information about skin sensations from neighboring parts of the body comes to neighboring parts of the somatosensory cortex, as Figure 3.18 illustrates. It is as if the outline of a tiny person, dangling upside down, determined the location of the infor-



Source: Penfield & Rasmussen, 1968.

Note: Did you notice the error in this classic drawing? (The figure shows the right side of the body, but the left hand and left side of the face.)

FIGURE 3.18

Motor and Somatosensory Cortex

The areas of cortex that move parts of the body (motor cortex) and receive sensory input from body parts (somatosensory cortex) occupy neighboring regions on each side of the central sulcus. These regions appear in both hemispheres; here we show cross-sections of only those on the left side, looking from the back of the brain toward the front. The cross-sections also show how areas controlling movement of neighboring parts of the body, like the foot and leg, occupy neighboring parts of the motor cortex. Areas receiving input from neighboring body parts, such as the lips and tongue, are near one another in the sensory cortex.

mation. This pattern is called the *homunculus,* Latin for "little man." The organization of the homunculus has long been assumed to be unchanging, but recent work has shown that the amount of sensory cortex that responds to particular sensory inputs can be modified by experience. The experience may be as traumatic as the loss of a limb (whereby sensory areas of the brain formerly stimulated by that limb are now stimulated by other regions of skin) or something as mundane as practicing the violin (which can increase the number of neurons responding to touch). These changes appear to be coordinated partly by brain areas outside the cerebral cortex, which reassign more neurons to process particular sensory inputs. For example, activity in the basal nucleus of the forebrain can generate a massive reorganization of the sensory cortex involved in sound processing (Kilgard & Merzenich, 1998).

Motor Cortex Neurons in specific areas of the **motor cortex,** which is in the frontal lobe, initiate voluntary movements in specific parts of the body. Some control movement of the hand; others stimulate movement of the foot, the knee, the head, and so on. The specific muscles activated by these regions are linked not to specific neurons but, as mentioned earlier, to the patterned activity of many neurons. Some of the same neurons are active in moving different fingers, for example, but the *combinations* of neurons differ from finger to finger (Schieber & Hibbard, 1993). The motor cortex is arranged in a way that mirrors the somatosensory cortex. For example, as you can see

Movement and the Brain

Smooth movements require the coordination of neural activity in both the brain and the spinal cord. This presents a challenge to researchers developing implants to restore movement for individuals with paralysis. Delivering computer-controlled electrical stimulation to the leg muscles allows walking to be achieved, but the movements are jerkier than normal.

in Figure 3.18, the parts of the motor cortex that control the hands are near parts of the somatosensory cortex that receive sensory information from the hands.

Controlling the movement of the body may seem simple: You have a map of body parts in the motor cortex, and you activate cells in the hand region if you want to move your hand. But the actual process is much more complex. Recall again your sleepy reach for the coffeepot. The motor cortex must first translate the coffeepot's location in space into coordinates relative to your body; for example, your hand might have to be moved to the right or to the left of your body. Next, the motor cortex must determine which muscles must be contracted to produce those movements. Populations of neurons work together to produce just the right combinations of direction and force in the particular muscle groups necessary to create the desired effects. Many interconnected areas of the motor cortex are involved in making these determinations.

Association Cortex The parts of the cerebral cortex not directly involved with either receiving specific sensory information or initiating movement are referred to as **association cortex.** These are the areas that perform such complex cognitive tasks as associating words with images. The term *association* is appropriate because these areas either receive information from more than one sense or combine sensory and motor information. Association cortex occurs in all of the lobes and forms a large part of the cerebral cortex in human beings. For this reason, damage to association areas can create severe deficits in all kinds of mental abilities.

One of the most devastating deficits, called *aphasia,* creates difficulty in understanding or producing speech and can involve all the functions of the cerebral cortex. Language information comes from the auditory cortex (for spoken language) or from the visual cortex (for written language); areas of the motor cortex produce speech (Geschwind, 1979). But the complex function known as language also involves activity in association cortex. In the 1800s, two areas of association cortex involved in different aspects of language were delineated. Paul Broca described the difficulties that result from damage to the association cortex in the frontal lobe near motor areas that control facial muscles, an area now called *Broca's area* (see Figure 3.17 on page 72). When Broca's area is damaged, the mental organization of speech suffers. Victims have great difficulty speaking, and what they say is often grammatically incorrect. Each word comes slowly. Other language problems result from damage to a portion of the association cortex first described by Carl Wernicke (pronounced "VER-nick-ee") and thus called *Wernicke's area.* As Figure 3.17 (on page 72) shows, it is located in the temporal lobe, near an area of the cortex that receives information from the ears and eyes. Wernicke's area is involved in the interpretation of both speech and written words. Damage to this area can leave fluency intact but disrupt the ability to understand the meaning of words or to speak comprehensibly.

One study illustrates the different effects of damage to each area (Lapointe, 1990). In response to the request "Tell me what you do with a cigarette," a person with chronic Broca's aphasia replied, "Uh . . . uh . . . cigarette (pause) smoke it." Though halting and ungrammatical, this speech was meaningful. In response to the same request, a person with chronic Wernicke's aphasia replied, "This is a segment of a pegment. Soap a cigarette." This speech, by contrast, was fluent but without meaning. A fascinating aspect of Broca's aphasia is that when a person with the disorder sings, the words come fluently and correctly. Presumably, words set to music are handled by a different part of the brain than normal spoken words (Besson et al., 1998). Capitalizing on this observation, "melodic intonation" therapy helps Broca's aphasia patients gain fluency in speaking by teaching them to speak in a "singsong" manner (Lapointe, 1990).

It appears that differing areas of association cortex are activated depending on whether language is spoken or written and whether particular grammatical and conceptual categories are involved (see Figure 3.12 on page 65). For example, consider the cases of two women who had strokes that damaged different language-related parts of their association cortex (Caramazza & Hillis, 1991). Neither woman had difficulty speaking or writing nouns, but both had difficulty with verbs. One woman could write

LINKAGES

Where are the brain's language centers? (a link to Cognition and Language)

"Whoa! *That* was a good one! Try it, Hobbs — just poke his brain right where my finger is."

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FIGURE 3.19

The Brain's Left and Right Hemispheres

The brain's two hemispheres are joined by a core bundle of nerve fibers known as the corpus callosum; in this figure the corpus callosum has been cut and the two hemispheres are separated. The two cerebral hemispheres look nearly the same but perform somewhat different tasks. For one thing, the left hemisphere receives sensory input from and controls movement on the right side of the body. The right hemisphere senses and controls the left side of the body.

verbs but could not speak them: She had difficulty pronouncing *watch* when it was used as a verb in the sentence "I watch TV" but spoke the same word easily when it appeared as a noun in "My watch is slow." The other woman could speak verbs but had difficulty writing them. Another bizarre language abnormality following brain damage is "foreign accent syndrome," illustrated by a thirty-two-year-old stroke victim whose native language was English. His speech was slurred immediately after the stroke, but as it improved, he began to speak with a Scandinavian accent, adding syllables to some words ("How are you today-ah?") and pronouncing *hill* as "heel." His normal accent did not fully return for four months (Takayama et al., 1993). Case studies of "foreign accent syndrome" suggest that specific regions of the brain are involved in the sound of language, whereas others are involved in various aspects of its meaning.

The Divided Brain in a Unified Self

A striking idea emerged from observations of people with damage to the language areas of the brain. Researchers noticed that damage to limited areas of the *left hemisphere* impaired the ability to use or comprehend language, whereas damage to corresponding parts of the *right hemisphere* usually did not. Perhaps, they reasoned, the right and left halves of the brain serve different functions.

This concept was not entirely new. It had long been understood, for example, that most sensory and motor pathways cross over as they enter or leave the brain. As a result, the *left hemisphere* receives information from and controls movements of the *right* side of the body, whereas the *right hemisphere* receives input from and controls the *left* side of the body. However, both sides of the brain perform these functions. In contrast, the fact that language centers, such as Broca's area and Wernicke's area, are almost exclusively on the left side of the brain suggested that each hemisphere might be specialized to perform some functions almost independently of the other hemisphere.

In the late 1800s there was great interest in the hypothesis that the hemispheres might be specialized, but no techniques were available for testing it. Renewed interest in the issue grew out of studies during the 1960s by Roger Sperry, Michael Gazzaniga, and their colleagues.

Split-Brain Studies Sperry studied *split-brain* patients—people who had undergone a radical surgical procedure in an attempt to control severe epilepsy. Before the surgery, their seizures began in one hemisphere and then spread to engulf the whole brain. As a last resort, surgeons isolated the two hemispheres from each other by severing the **corpus callosum,** a massive bundle of more than a million fibers that connects the two hemispheres (see Figure 3.19).

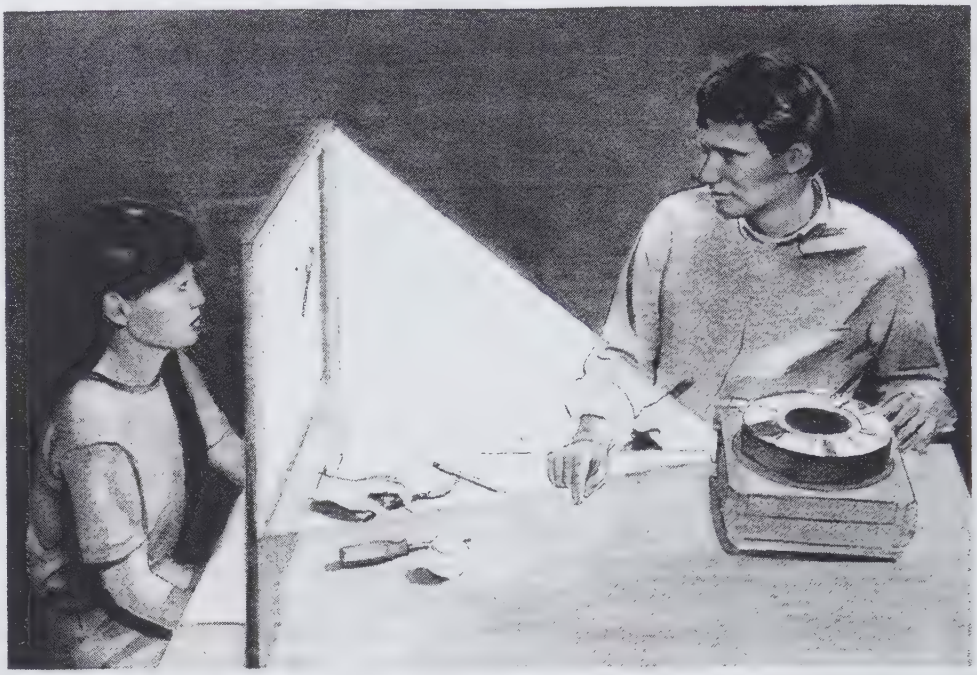
After the surgery, researchers used a special apparatus to present visual images to only one side of these patients' split brains (see Figure 3.20). They found that severing the tie between the hemispheres had dramatically affected the way these people thought about and dealt with the world. For example, when the image of a spoon was presented to the left, language-oriented side of one patient's split brain, she could say what the spoon was; but when the spoon was presented to the right side of her brain, she could not describe the spoon in words. She still knew what the object was, however. Using her left hand (controlled by the right hemisphere), she could pick out the spoon from a group of other objects by its shape. But when asked what she had just grasped, she replied, "A pencil." The right hemisphere recognized the object, but the patient could not describe it because the left (language) half of her brain did not see or feel it (Sperry, 1968).

Although the right hemisphere has no control over spoken language in split-brain patients, it does have important capabilities, including some related to nonspoken language. For example, a split-brain patient's right hemisphere can guide the left hand in spelling out words with Scrabble tiles (Gazzaniga & LeDoux, 1978). Thanks to this ability, researchers discovered that the right hemisphere of split-brain patients has

FIGURE 3.20

Apparatus for Studying Split-Brain Patients

When the person stares at the dot on the screen, images briefly presented on one side of the dot go to only one side of the brain. For example, a picture of a spoon presented on the left side of the screen goes to the right side of the brain. Thus the right side of the brain could find the spoon and direct the left hand to touch it; but because the language areas on the left side of the brain did not see it, the person would not be able to identify the spoon verbally.



self-awareness and normal learning abilities. In addition, it is superior to the left on tasks dealing with spatial relations (especially drawing three-dimensional shapes) and at recognizing human faces.

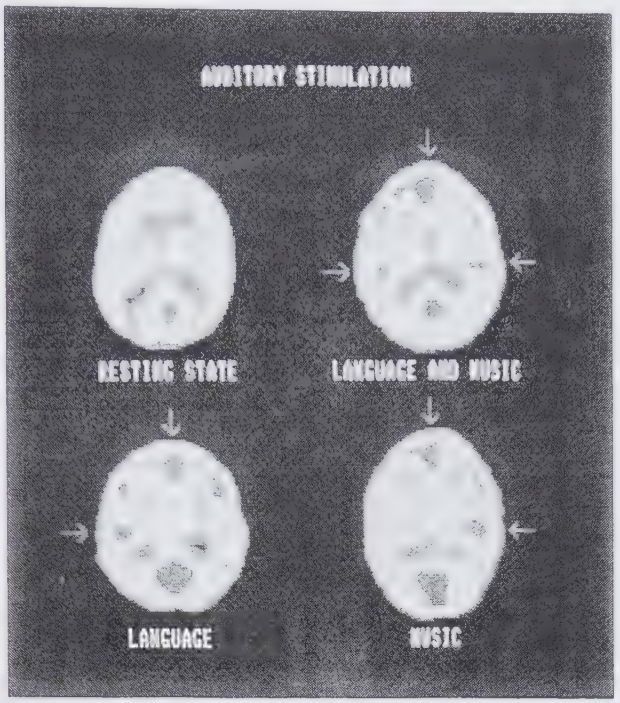
Lateralization of Normal Brains Sperry concluded from his studies that each hemisphere in the split-brain patient has its own "private sensations, perceptions, thoughts, and ideas all of which are cut off from the corresponding experiences in the opposite hemisphere. . . . In many respects each disconnected hemisphere appears to have a separate mind of its own" (Sperry, 1974). But when the hemispheres are connected normally, are certain functions, such as mathematical reasoning or language skills, lateralized? A **lateralized** task is one that is performed more efficiently by one hemisphere than by the other.

To find out, researchers presented images to just one hemisphere of people with normal brains and then measured how fast they could analyze information. If information is presented to one side of the brain and that side is specialized to analyze that type of information, a person's responses will be faster than if the information must first be transferred to the other hemisphere for analysis. These studies have confirmed that the left hemisphere has better logical and language abilities than the right, whereas the right hemisphere has better spatial, artistic, and musical abilities (Springer & Deutsch, 1989). PET scans of normal people receiving varying kinds of auditory stimulation also demonstrate these asymmetries of function (see Figure 3.21). The language abilities of the left hemisphere are not specifically related to auditory information, since deaf people also use the left hemisphere more than the right for sign language (Hickok, Bellugi, & Klima, 1996).

The precise nature and degree of lateralization vary quite a bit among individuals. For example, in about a third of left-handed people, either the right hemisphere or both hemispheres control language functions (Springer & Deutsch, 1989). In contrast, only about 5 percent of right-handed people have language controlled by the right hemisphere. Evidence about sex differences in brain laterality comes from studies on the cognitive abilities of normal men and women, the effects of brain damage on cognitive function, and anatomical differences between the sexes. Among normal individuals there are sex differences in the ability to perform tasks that are known to be lateralized in the brain. For example, women are better than men at perceptual fluency

FIGURE 3.21

Lateralization of the Cerebral Hemispheres: Evidence from PET Scans



These PET scans show overhead views of a section of a person's brain that was receiving different kinds of stimulation. At the upper left, the person was resting, with eyes open and ears plugged. Note that the greatest brain activity (as indicated by the red color) was in the visual cortex, which was receiving input from the eyes. As shown at the lower left, when the person listened to spoken language, the left (more language-oriented) side of the brain, especially the auditory cortex in the temporal lobe, became more active, but the right temporal lobe did not; the visual and frontal areas were also active. However, when the person listened to music (lower right), there was intense activity in the right temporal lobe but little in the left. When the person heard both words and music, the temporal cortex on both sides of the brain became activated. Here is visual evidence of the involvement of each side of the brain in processing different kinds of information (Phelps & Mazziotta, 1985).

tasks, such as rapidly identifying matching items, and at arithmetic calculations. Men are better at imagining the rotation of an object in space and tasks involving target-directed motor skills, such as guiding projectiles or intercepting them. But as can be seen in any video-game arcade, males tend to practice this type of skill more than females. Perhaps the performance difference would be reduced if practice effects were equated.

Damage to just one side of the brain is more debilitating to men than to women. In particular, men show larger deficits in language ability than women when the left side is damaged (McGlone, 1980). This difference may reflect a wider distribution of language abilities in the brains of women compared with those of men. When participants in one study performed language tasks, such as thinking about whether particular words rhyme, MRI scans showed increased activity on the left side of the brain for men but on both sides for women (Shaywitz et al., 1995; see also Figure 1.4 on page 11). Women reportedly have proportionately more of their association cortex devoted to language tasks (Harasty et al., 1997). Note, however, that although humans and animals show definite sex differences in brain anatomy and metabolism (Allen et al., 1989; Gur et al., 1995), no particular anatomical feature has been identified as underlying sex differences in lateralization. One highly publicized report claimed that the corpus callosum is larger in women than men (de Lacoste–Utamsing & Holloway, 1982), but numerous subsequent investigations have all failed to replicate this finding (Bishop & Wahlsten, 1997). (The original report of a sex difference in the corpus callosum continues to be cited, however, despite overwhelming evidence against it, suggesting that scientists are sometimes not entirely unbiased.)

Having two somewhat specialized hemispheres allows the brain to more efficiently perform some tasks, particularly difficult ones (Hoptman & Davidson, 1994), but the differences between the hemispheres should not be exaggerated. Indeed, the corpus callosum usually integrates the functions of the "two brains." As a result, the hemispheres work so closely together, and each makes up so well for whatever lack of ability the other may have, that people are normally unaware that their brains are made up of two partially independent, somewhat specialized halves (Banich & Heller, 1998).

Plasticity in the Brain

The brain has a remarkable property called **synaptic plasticity,** which is the ability to strengthen neural connections at synapses as well as to establish new synapses. This property provides the basis for the capacity to learn from experiences and form memories, processes that are described in Chapters 6 and 7. Such plasticity occurs throughout the nervous system; even the simplest reflex in the spinal cord can be modified by experience (Feng-Chen & Wolpaw, 1996). However, the brain's plasticity is severely limited when it comes to repairing damage. So while there are heroic recoveries from brain damage following a stroke, for example, more often the victim is permanently disabled in some way.

Why is it difficult for the brain to repair damage? For one thing, adult animals generally do not produce new neurons. During prenatal development, neurons divide and multiply as other cells do; but as the brain matures, most neurons stop dividing. They grow new axons, but except in very restricted areas they do not produce new cells, even in response to injury (Eriksson et al., 1998). Second, the axons and dendrites of any new neurons would have to reestablish all their former communication links. In the peripheral nervous system, the glial cells form "tunnels" that guide the regrowth of axons. But in the central nervous system, reestablishing communication links is almost impossible, because glial cells actively suppress new connections (Olson, 1997). Nevertheless, the brain does try to heal itself. For example, healthy neurons attempt to take over for damaged ones, partly by changing their own function and partly by sprouting axons whose connections help neighboring regions take on new functions (Cao et al., 1994). Unfortunately, these changes rarely result in total restoration of lost functions. Indeed, it is the brain's inability to replace dead or damaged neurons that underlies the unremitting progression of some diseases of the brain.

Several new methods are being employed to help people recover from brain damage. One approach is to replace lost tissue with tissue from another brain. Scientists have transplanted, or grafted, tissue from a still-developing fetal brain into the brain of an adult animal of the same species. If the receiving animal does not reject it, the graft sends axons out into the brain and makes some functional connections. This treatment has reversed animals' learning difficulties, movement disorders, and other results of brain damage. The technique has also been used to treat a small number of people with *Parkinson's disease*—a disorder characterized by tremors, rigidity of the arms and legs, difficulty in initiating movements, and poor balance (Carlson, 1998). The preliminary results are very encouraging (Kordower et al., 1995). Exciting new work with animals has shown that the effectiveness of brain tissue grafts can be greatly enhanced by adding naturally occurring proteins called growth factors, or *neurotrophic factors,* which promote the survival of neurons (Takayama et al., 1995). One of the most effective of these proteins is Glial-cell Derived Neurotrophic Factor, or GDNF (Henderson et al., 1994). The brain tissue transplant procedure is promising, but because its use with humans requires tissue from aborted fetuses, it has generated considerable controversy. In another twist on this strategy, scientists recently succeeded in transplanting neural cells from a fetal pig into a human with Parkinson's disease (Deacon et al., 1997). Suppression of the patient's immune system was necessary to prevent rejection of the graft, but the graft and the patient survived for seven months—an encouraging result that suggests the feasibility of additional cross-species transplants in the future. Two even more unusual treatments have recently been reported. Russian physicians transplanted neural tissue from fruit flies into the brains of Parkinson's patients, with therapeutic benefits and no reported side effects (Saveliev et al., 1997). And American researchers found that immune-resistant cells taken from testicles have growth-promoting effects on some neurotransmitters, and that cells from the testes transplanted into the brains of rats with Parkinson's disease reduced symptoms of the disease (Sanberg et al., 1997).

In another approach to treating brain diseases and damage, researchers have "engineered" cells from rats to produce *nerve growth factor,* a substance that helps stimulate

A Patient with Parkinson's Disease

Cells from a person's own adrenal gland have been used as an alternative to brain tissue in transplant treatment for Parkinson's disease. Adrenal gland cells act like neurons when placed in the brain, and people can live with just one adrenal gland. In early attempts at this therapy, the benefit was temporary and a significant number of patients died during surgery. More recently, however, adrenal tissue has been mixed with peripheral nerve tissue, and the grafts show more prolonged effectiveness with fewer side effects (Watts et al., 1997).

and guide the growth of newly sprouted axons in the central nervous system. When the engineered cells were implanted into the brains of rats with brain damage or disease, the cells secreted nerve growth factor. In many cases, brain damage was reversed, with surviving neurons sprouting axons that grew toward the graft (Rosenberg et al., 1988). Based on these animal studies, nerve growth factor has been infused directly into the brain of a person with Alzheimer's disease (Seiger et al., 1993). The results were encouraging, and trials with other patients are in progress. In addition, studies of nerve growth factor led to the discovery of other growth factors that may provide new avenues for treatment. Interestingly, physical exercise increases concentrations of brain growth factor in rats (Neeper et al., 1995). Although evidence for the same effect in humans has not yet been found, research suggests that older people who exercise regularly are more mentally alert than those who live sedentary lives (Hassmen & Koivula, 1997).

Yet another prospect for reversing brain damage was originally suggested by studies of bird brains (Nottebohm, 1985). Each year, the male canary learns new songs, then forgets many of them at the end of the breeding season. This phenomenon appears to be related to the fact that as the days get shorter, neurons die in a part of his brain related to the learning of songs (Kirn & Schwabl, 1997); then, when spring comes, the same brain region grows by neuronal cell division. If scientists could discover what is different about this part of the bird brain, perhaps the same processes could be generated in the human brain, allowing it to heal itself by producing new neurons. Some progress has already been made in discovering factors that might allow the birth of new neurons in adult mammals. For example, cells were taken from the brains of mice and maintained in a dish with nutrients and oxygen. When the cells were treated with a growth factor known as *epidermal growth factor (EGF),* some of them divided and produced new neurons and glial cells (Reynolds & Weiss, 1992). In fact, researchers have also stimulated *human* fetal brain cells with EGF and then implanted them into the brains of rats, where the cells developed into both new neurons and glial cells (Svendsen et al., 1997). Additional encouraging evidence comes from research showing that, in rodents and monkeys and even humans, small parts of the hippocampus continue to generate new neurons in adulthood, and that their formation is partly controlled by stress hormones (Eriksson et al., 1998; Gould et al., 1998) and by an enriched environment (Kempermann, Kuhn, & Gage, 1997). The source of these new neurons has recently been identified as "stem cells," which reside in the lining of the ventricles of the brain (Johansson et al., 1999). The discovery of these stem cells, which

Immature Movement

The broad, sweeping motion of young babies' limbs is partly related to immaturity in parts of the brain that control movement. As those regions mature over time, this child's movements will become more coordinated.

have the potential to develop into many types of cells, including neurons, creates the exciting possibility that degenerative disorders such as Alzheimer's disease and Parkinson's disease may eventually be cured by actually replacing dying neurons with new neurons.

LINKAGES

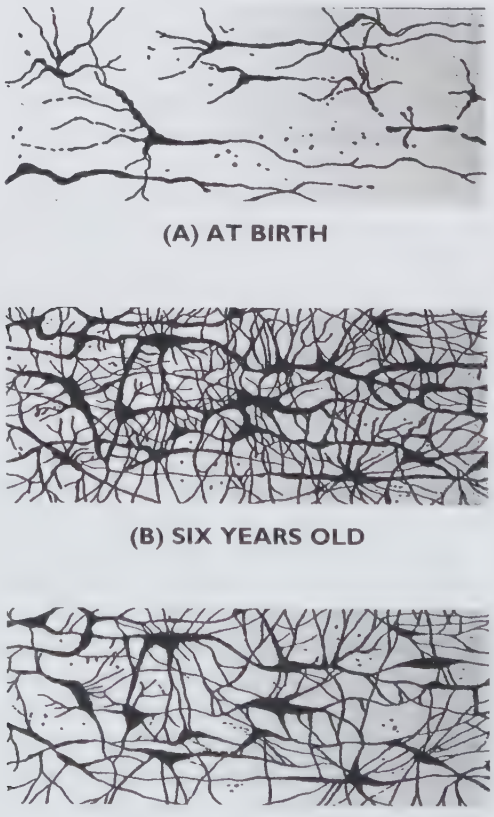
Human Development and the Changing Brain

Fortunately, most of the changes that take place in the brain throughout life are not the kind that produce Parkinson's disease and Alzheimer's disease. What are these changes, and what are their effects? How are they related to the developments in sensory and motor capabilities, mental abilities, and other characteristics described in Chapter 12, on human development?

Classical anatomical studies—and, more recently, PET scans and functional MRI scans—are beginning to answer these questions. They have uncovered some interesting correlations between changes in neural activity and the behavior of human newborns and young infants. Among newborns, activity is relatively high in the thalamus but low in the striatum. This pattern may be related to the way newborns move: They make nonpurposeful, sweeping movements of the arms and legs, much like adults who have a hyperactive thalamus and a degenerated striatum (Chugani & Phelps, 1986). During the second and third months of life, activity increases in many regions of the cortex, a change that is correlated with the loss of subcortically controlled reflexes such as the grasping reflex. When infants are around eight or nine months old, activity in the frontal cortex increases, a development that correlates well with the apparent beginnings of cognitive activity in infants (Chugani & Phelps, 1986).

LINKAGES

How do our brains change as we get older? (a link to Human Development)



(A) AT BIRTH

(B) SIX YEARS OLD

(C) FOURTEEN YEARS OLD

FIGURE 3.22

Changes in Neurons of the Cerebral Cortex During Development

During childhood, the brain overproduces neural connections, establishes the usefulness of certain connections, and then "prunes" the extra connections (Cowan, 1979). Overproduction of synapses, especially in the frontal cortex, may be essential for infants to develop certain intellectual abilities (Goldman-Rakic, 1987). Some scientists believe that the pruning of connections may reflect a process whereby those connections that are used survive, whereas others die.

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in review

ORGANIZATION OF THE BRAIN

Major Division	Some Important Structures	Some Major Functions
Hindbrain	Medulla	Regulation of breathing, heart rate, and blood pressure
	Reticular formation (also extends into midbrain)	Regulation of arousal and attention
	Cerebellum	Control of finely coordinated movements
Midbrain	Various nuclei	Relay of sensory signals to forebrain; creation of automatic responses to certain stimuli
	Substantia nigra	Smooth initiation of movement
Forebrain	Hypothalamus	Regulation of hunger, thirst, and sex drives
	Thalamus	Interpretation and relaying of sensory information
	Hippocampus	Formation of new memories
	Amygdala	Connection of sensations and emotions
	Cerebral cortex	Analysis of sensory information; control over voluntary movements, abstract thinking, and other complex cognitive activity
	Corpus callosum	Transfer of information between the two cerebral hemispheres

These changes reflect brain plasticity, not the appearance of new cells. After birth, the number of dendrites and synapses increases. In one area of the cortex, the number of synapses increases tenfold from birth to twelve months of age (Huttenlocher, 1990). Moreover, the number of synapses in cortical regions devoted to hearing peaks earlier than the number of synapses in areas involved in more complex mental processes (Huttenlocher & Dabholkar, 1997). Surprisingly, by the time children are six or seven years old, their brains have more dendrites and use twice as much metabolic fuel as those of adults (Chugani & Phelps, 1986). In early adolescence, the number of dendrites and neural connections actually drops, so that the adult level is reached by about the age of fourteen (see Figure 3.22). MRI scans show an actual loss of gray-matter volume in the cortex throughout the adolescent years (Jernigan et al., 1991).

Even as dendrites are reduced, the brain retains its plasticity and "rewires" itself to form new connections throughout life. Our genes apparently determine the basic pattern of growth and the major lines of connections, the "highways" of the brain and its general architecture. (For a summary of this architecture, see "In Review: Organization of the Brain.") But the details of the connections depend on experience, including such factors as how complex and interesting the environment is. For example, researchers have compared the brains of rats raised alone with only a boring view of the side of their cages to the brains of rats raised with interesting toys and stimulating playmates. The cerebral cortex of those from the enriched environment had more and longer dendrites as well as more synapses than the cortex of animals from barren, individual

housing (Turner & Greenough, 1985). Furthermore, the number of cortical synapses increased when isolated animals were moved to an enriched environment (Green, Greenough, & Schlumpf, 1983). To the extent that these ideas and research findings apply to humans, they hold obvious implications for how people raise children and treat the elderly.

In any event, this line of research highlights the interaction of environmental and genetic factors. Some overproduced synapses may reflect genetically directed preparation for certain types of experiences. Generation of these synapses is an "experience expectant" process, and it accounts for sensitive periods during development when certain things can be most easily learned. But overproduction of synapses also occurs in response to totally new experiences; this process is "experience dependent" (Greenough, Black, & Wallace, 1987). Within constraints set by genetics, interactions with the world mold the brain itself.

THE CHEMISTRY OF PSYCHOLOGY

So far, we have described how the cells of the nervous system communicate by releasing neurotransmitters at their synapses, and we have outlined some of the basic structures of the nervous system and their functions. Let's now pull these topics together by considering two questions about neurotransmitters and the nervous system. First, which neurotransmitters occur in which structures? As noted earlier, different sets of neurons use different neurotransmitters; a group of neurons that communicates using the same neurotransmitter is called a **neurotransmitter system.** Second, how do neurotransmitter systems affect behavior? It appears that certain neurotransmitter systems play a dominant role in particular functions, such as emotion or memory, and in particular problems, such as Alzheimer's disease. Our discussion will also reveal that drugs affect behavior and mental processes by altering these systems. Details about how these *psychoactive drugs* work are presented later in the book, when we discuss drugs of abuse—such as cocaine and heroin (see Chapter 9)—and drugs used in treating mental disorders (see Chapter 16).

Chemical neurotransmission was first demonstrated, in frogs, by Otto Loewi in 1921. Since then, about 100 different neurotransmitters have been identified. Some of the chemicals that act on receptors at synapses have been called *neuromodulators,* because they act slowly and often modify or "modulate" a cell's response to other neurotransmitters. The distinction between "neurotransmitter" and "neuromodulator" is not always clear, however. Depending on the type of receptor it acts on at a given synapse, the same substance can function as either a neuromodulator or a neurotransmitter. A more radical modification of the concept of neurotransmitter occurred following the discovery that nitric oxide—a toxic gas and a major constituent of air pollution—is also a neurotransmitter (Dawson & Dawson, 1995). When nitric oxide is released by neurons, it diffuses to other neurons nearby and sends a signal that acts on chemical reactions *inside* those neurons rather than on receptors on the surface of the neurons. Nitric oxide appears to be one of the neurotransmitters responsible for such diverse functions as penile erection and the formation of memories—not at the same site, obviously.

Seven Major Neurotransmitters

The following sections describe seven of the most important neurotransmitters: acetylcholine, norepinephrine, serotonin, dopamine, GABA, glutamate, and endorphins. Usually the suffix *-ergic* is added to the name of a neurotransmitter to make the word an adjective. Thus, a group of neurons using dopamine as a neurotransmitter is called a *dopaminergic system* and a group using acetylcholine is termed *cholinergic.*

Acetylcholine The first compound to be identified as a neurotransmitter was **acetylcholine** (pronounced "a-see-tull-KO-leen"), which is used by neurons in both

the peripheral and the central nervous systems. In the peripheral nervous system, cholinergic neurons control the contraction of muscles by releasing acetylcholine onto muscle tissues. It is also the neurotransmitter used by neurons of the parasympathetic nervous system to slow the heartbeat and activate the gastrointestinal system. In the brain, cholinergic neurons are especially plentiful in the striatum, where they occur in circuits that are important for movement (see Figure 3.23). Axons of cholinergic neurons also make up major pathways in the limbic system, including the hippocampus, and in other areas of the cerebrum that are involved in memory (Jerusalinsky, Kornisiuk, & Izquierdo, 1997). Drugs that interfere with acetylcholine prevent the formation of new memories. In Alzheimer's disease, there is a nearly complete loss of cholinergic neurons in a nucleus in the forebrain that sends fibers to the cerebral cortex and hippocampus—a nucleus that normally enhances plasticity in these regions (Kilgard & Merzenich, 1998).

Norepinephrine Neurons that use **norepinephrine** (pronounced "nor-eppa-NEF-rin") are called *adrenergic,* because norepinephrine is also called *noradrenaline.* Like acetylcholine, norepinephrine occurs in both the central and the peripheral nervous systems; in both places, it contributes to arousal. Noradrenaline (and its close relative, adrenaline) are the neurotransmitters used by the sympathetic nervous system to activate you and prepare you for action. Approximately half of the norepinephrine in the entire brain is contained in cells of the locus coeruleus, which is near the reticular formation in the hindbrain (see Figure 3.23). Because adrenergic systems cover a lot of territory, it is logical that norepinephrine affects several broad categories of behavior. Indeed, norepinephrine is involved in the appearance of wakefulness and sleep, in learning, and in the regulation of mood.

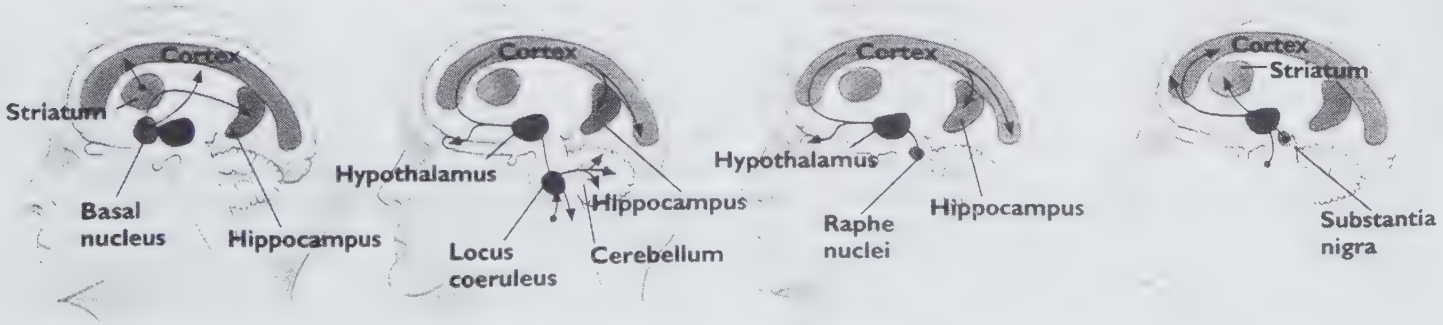
Serotonin The neurotransmitter **serotonin** is similar to norepinephrine in several ways. First, most of the cells that use it as a neurotransmitter occur in an area along the midline of the hindbrain; the region for serotonin is the *raphe nuclei* (see Figure 3.23). Second, serotonergic axons send branches throughout the forebrain, including the hypothalamus, the hippocampus, and the cerebral cortex. Third, serotonin affects sleep and mood.

Serotonin differs from norepinephrine, however, in that the brain can get one of the substances from which it is made, *tryptophan,* directly from food. As a result, what you eat can affect the amount of serotonin in your brain. Carbohydrates increase the amount of tryptophan getting into the brain and therefore affect how much serotonin is made; so a meal high in carbohydrates produces increased levels of serotonin. Serotonin, in turn, normally causes a reduction in the desire for carbohydrates. Some researchers suspect that malfunctions in the serotonin feedback system are responsible for the disturbances of mood and appetite seen in certain types of obesity, premenstrual tension, and depression (Wurtman & Wurtman, 1995). Serotonin has also been implicated in aggression and impulse control. One of the most consistently observed relationships between a particular neurotransmitter system and a particular behavior

FIGURE 3.23

Examples of Neurotransmitter Pathways

Neurons that release a certain neurotransmitter may be concentrated in one particular region (indicated by dots) and send fibers into other regions, to which they communicate across synapses (see arrows). Four examples are shown here.



is the low level of serotonin metabolites in the brains of suicide victims, who tend to show a combination of depressed mood, self-directed aggression, and impulsivity (Mann, 1998).

Dopamine Figure 3.23 shows that **dopamine** is the neurotransmitter used in the substantia nigra and striatum, which are important for movement. Indeed, malfunctioning of the dopamine system in these regions contributes to movement disorders, including Parkinson's disease. As dopamine cells in the substantia nigra degenerate, Parkinson's disease victims experience severe shakiness and difficulty at initiating movement. Parkinson's is most common in elderly people, and available evidence suggests that it results from sensitivity to an as yet unidentified environmental factor or toxin (Ben-Shlomo, 1997). Parkinson's has been treated, with partial success, using drugs that enable neurons to make more dopamine, or that stimulate dopamine receptors (Chase, 1998).

Other dopaminergic systems send axons from the midbrain to the forebrain, including the cerebral cortex. Some of these neurons are important in the experience of reward, or pleasure, which is vital in shaping and motivating behavior (Wise & Rompre, 1989). Animals will work intensively to receive a direct infusion of dopamine into the forebrain. These dopaminergic systems play a role in the rewarding properties of many drugs, including cocaine (Bardo, 1998). Malfunctioning of other dopaminergic neurons that go to the cortex may be partly responsible for *schizophrenia,* a psychological disorder in which perception, emotional expression, and thought are severely distorted (Egan & Weinberger, 1997).

GABA Neurons in widespread regions of the brain use **GABA,** which stands for "gamma-amino butyric acid." GABA reduces the likelihood that postsynaptic neurons will fire an action potential; in fact, it is the major inhibitory neurotransmitter in the central nervous system. When you fall asleep, neurons that use GABA deserve part of the credit.

Malfunctioning of GABA systems has been implicated in a variety of disorders, including severe anxiety and *Huntington's disease,* an inherited and incurable disorder in which the victim is plagued by uncontrollable jerky movement of the arms and legs, along with dementia. Huntington's disease results in the loss of many GABA-containing neurons in the striatum. Normally these GABA systems inhibit dopamine systems; so when they are lost through Huntington's disease, the dopamine systems may run wild, impairing many motor and cognitive functions.

Because drugs that block GABA receptors produce intense repetitive electrical discharges, known as *seizures,* researchers suspect that malfunctioning GABA systems probably contribute to *epilepsy,* a brain disorder associated with seizures and convulsive movements. Repeated or sustained seizures can result in permanent brain damage; drug treatments can reduce their frequency and severity, but completely effective drugs are not yet available.

Glutamate The major excitatory neurotransmitter in the central nervous system is **glutamate.** Glutamate is used by more neurons than any other neurotransmitter; its synapses are especially plentiful in the cerebral cortex and the hippocampus.

Glutamate is particularly important because it plays a major role in the ability of the brain to "strengthen" its synaptic connections—that is, to allow messages to cross the synapse more efficiently. This process is necessary for normal development and may be at the root of learning and memory (Kaczmarek, Kossut, & Skangiel-Kramska, 1997). At the same time, overactivity of glutamate synapses can cause neurons to die. In fact, this overactivity is the main cause of the brain damage that occurs when oxygen is cut off from neurons during a stroke. Glutamate can "excite neurons to death," so blocking glutamate receptors immediately after a brain trauma can prevent permanent brain damage (Bittigau & Ikonomidou, 1997). Glutamate may also contribute to the loss of cells from the hippocampus that occurs in Alzheimer's disease (Olney, Wozniak, & Farber, 1997).

In review

MAJOR NEUROTRANSMITTERS

Neurotransmitter	Normal Function	Disorder Associated with Malfunctioning Neurotransmitter Systems
Acetylcholine	Movement, memory	Alzheimer's disease
Norepinephrine	Sleep, learning, mood	Depression
Serotonin	Mood, appetite, aggression	Depression
Dopamine	Movement, reward	Parkinson's disease, schizophrenia
GABA	Movement	Huntington's disease, epilepsy
Glutamate	Memory	Neuron loss after stroke
Endorphins	Modulation of pain	No established disorder

Endorphins One family of neurotransmitters was discovered in the 1970s by scientists who were interested in *opiates,* which are substances derived from poppy flowers. Opiates such as morphine and heroin can relieve pain, produce euphoria, and, in high doses, bring on sleep. After marking morphine with a radioactive substance, researchers traced where it became concentrated in the brain. They found that opiates bind to receptors that were not associated with any known neurotransmitter. Since it was unlikely that the brain had developed opiate receptors just in case a person might want to use morphine or heroin, researchers reasoned that the body must contain a substance similar to opiates. This hypothesis led to the search for a naturally occurring, or endogenous, morphine, which was called *endorphin,* a contraction of "endogenous morphine." As it turned out, there are many natural opiate-like compounds. Thus, the term **endorphin** refers to any neurotransmitter that can bind to the same receptors stimulated by opiates. Neurons in several parts of the brain use endorphins, including pathways that modify pain signals to the brain. (For a summary of the main neurotransmitters and the consequences of malfunctioning neurotransmitter systems, see "In Review: Major Neurotransmitters.")

Are There Drugs That Can Make You Smarter?

Neurotransmitter systems provide humans with all sorts of remarkable capabilities. It is hard not to be impressed by how effectively and efficiently these systems work to affect behavior and mental processes. And it is hard not to be concerned by the severe disorders that occur when the major neurotransmitter systems malfunction, as is the case with Alzheimer's disease. A wide variety of drugs have been developed in an effort to correct such malfunctions. Some people believe that drugs like these might also improve the functioning of neurotransmitters in normal individuals. Advertisements and articles in many health magazines and on literally tens of

thousands of websites describe an incredible array of "smart drugs" and dietary supplements. (The drugs are called *nootropics*—from *noos,* which is Greek for "mind.") It is claimed that these substances will improve mental sharpness and reduce or slow the effects of degenerative brain diseases. Belief in the value of nootropics is not confined to health-food fanatics; many respected scientists agree with some of the less extreme claims about some of these substances. Although the use of "smart drugs" is still not common in the United States, it is increasing; and in some countries (India, for example), it is already substantial (Geary, 1997). Are "smart drugs" really effective, or are they modern-day snake oil, giving no more than the illusion of a sharpened mind?

What am I being asked to believe or accept?

Proponents of "smart drugs" and dietary supplements claim that these substances can enhance memory and reverse the effects of degenerative brain diseases. This notion was popularized in a 1990 book by John Morgenthaler and Ward Dean, *Smart Drugs and Nutrients.* In an interview that year, Morgenthaler said he had been taking "smart drugs" for ten years, about eight pills twice a day. "It's not a scientific study; I may have gotten smarter just from growing up, educating myself and stimulating my brain. But I do stop taking the drugs every now and then, and I know that I have better concentration, attention and memory when I'm on them" (Greenwald, 1991).

What evidence is available to support the assertion?

There is certainly an element of truth to the idea that some of these drugs can improve cognitive performance under some circumstances. Animals given the drugs under controlled conditions show statistically significant improvements in performance on tasks requiring attention and memory. The chemicals used in these drugs include piracetam, extracts from the herb known as ginkgo biloba, and vasopressin. The drugs not only affect behavior but also have measurable biochemical effects on the brain. Some have general effects on brain metabolism and also increase blood sugar levels; others affect specific neurotransmitters such as acetylcholine, glutamate, serotonin, and dopamine (Pepeu, 1994).

Do "smart drugs" work with humans? One review of the scientific literature on the effects of nootropics in elderly humans describes improvement in cognitive functioning associated with forty-five different medications (van Reekum et al., 1997). In other words, you can probably find a study supporting the effectiveness of virtually any nootropic drug.

Are there alternative ways of interpreting the evidence?

One alternative explanation of the effects of nootropics is that they represent *placebo effects.* As noted in Chapter 2, placebo effects occur when a person's beliefs about a drug rather than the drug itself are responsible for any changes that occur. In their book on "smart drugs," Dean and Morgenthaler (1990) acknowledge the possibility that placebo effects may be responsible for many of the glowing testimonials about smart drugs; but then they themselves present such testimonials to help readers decide which substances to take, and they encourage readers to send in their own accounts of the benefits they have derived from a particular food or dietary supplement. This is hardly the kind of objective, empirical evidence that psychologists seek when evaluating theories and treatments.

Steven Rose (1993) suggests other serious flaws in many of the experiments that apparently show the benefits of nootropic drugs. Specifically, some researchers used only small numbers of participants in their studies, and others failed to test whether positive findings could be reproduced in their own or other researchers' laboratories. Studies that have examined whether the effects of "smart drugs" can be reproduced have yielded mixed results. For example, some experimenters have reported positive effects of ginkgo biloba while others—using exactly the same dosages and memory tasks—have not (Warot et al., 1991).

A third concern is that the effects of "smart drugs" are simply not very substantial. For example, the first drug (*tacrine*) approved by the United States Food and Drug Administration for the treatment of Alzheimer-related memory problems has repeatedly been shown to "significantly" improve memory, but the actual improvement is always minor. (This drug also poses a major risk of potentially fatal liver damage.) Other nootropic drugs that have positive effects on memory primarily affect attentiveness; they are no more effective than a cup of coffee (Service, 1994). Overall, the evidence from properly designed studies shows nootropic drugs to be a major disappointment (Riedel & Jolles, 1996).

What additional evidence would help to evaluate the alternatives?

Researchers are evaluating several promising new categories of nootropic drugs in animals (Staubli, Izrael, & Xu, 1996). However, it will take years of study to determine which drugs are truly effective for memory enhancement, and under what circumstances. It will also take time to learn whether the results with animals are applicable to humans. Research with humans will require carefully controlled double-blind studies that eliminate the effects of participants' and investigators' expectancies so that the direct effects of the drugs or other treatments can be separated from placebo effects. One critical question to be addressed in such research is whether drugs that can reduce the memory loss associated with Alzheimer's disease will also improve the memories of normal, healthy people and vice versa. And of course we still need to determine how these drugs work, what their potential side effects are, and whether they affect memory alone or also related processes such as motivation or attention.

What conclusions are most reasonable?

The scientific community is somewhat divided regarding the present benefits and the long-term potential of nootropic drugs (Geary, 1997). It is much too soon to hail them as the long-sought cure for all sorts of problems in cognitive functioning, but also too soon to write them off as a pseudoscientific fad. Moreover, although the drugs currently available for improving memory are limited in effectiveness, proponents argue that even if such drugs only delay the institutionalization of Alzheimer's patients for several months, the savings to society are substantial. Accordingly, researchers continue to investigate new drugs such as aricept, which acts on neurotransmitters, does not cause liver damage, and may have positive effects on memory in elderly persons (Barner & Gray, 1998). Overall, however, the scientific jury is still deliberating on the value of nootropic drugs.

The same "wait and see" attitude is *not* justified with respect to the herbs, potions, and drinks that are supposed to make you smarter. You can buy them in health food stores and "smart bars," but be sure they taste good, because their effect on mental powers is minimal. Indeed, the memory strategies described in Chapter 7 are likely to be far more effective in helping you remember information and do well in school. Your cognitive functioning is also more likely to be influenced by your environment and life experiences. For example, educational achievement, and a life of working at a job that engages the mind, has been associated with a lowered risk for Alzheimer's disease (Evans et al., 1997), perhaps because education and other factors that increase cerebral blood flow reduce the risk of this disorder (Crawford, 1998).

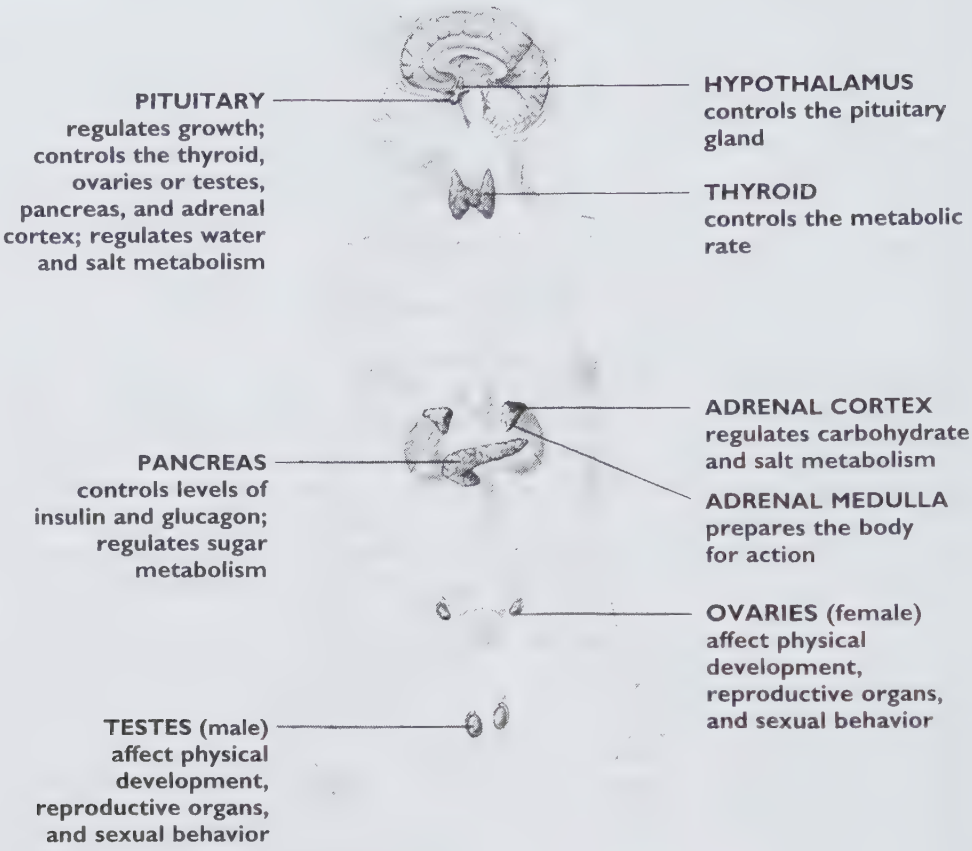
THE ENDOCRINE SYSTEM: COORDINATING THE INTERNAL WORLD

As noted earlier, neurons are not the only cells that can use chemicals to communicate with one another in ways that affect behavior and mental processes. Another class of cells with this ability resides in the **endocrine system,** which regulates functions

FIGURE 3.24

Some Major Glands of the Endocrine System

Each of the glands shown releases its hormones into the bloodstream. Even the hypothalamus, a part of the brain, regulates the adjacent pituitary gland by secreting hormones.


PITUITARY
regulates growth; controls the thyroid, ovaries or testes, pancreas, and adrenal cortex; regulates water and salt metabolism
HYPOTHALAMUS
controls the pituitary gland
THYROID
controls the metabolic rate
ADRENAL CORTEX
regulates carbohydrate and salt metabolism
ADRENAL MEDULLA
prepares the body for action
PANCREAS
controls levels of insulin and glucagon; regulates sugar metabolism
OVARIES (female)
affect physical development, reproductive organs, and sexual behavior
TESTES (male)
affect physical development, reproductive organs, and sexual behavior

ranging from stress responses to physical growth. The cells of endocrine organs, or **glands,** communicate by secreting chemicals, much as neurons do. In the case of endocrine organs, the chemicals are called **hormones.** Figure 3.24 shows the location and functions of some of the major endocrine glands.

Hormones from the endocrine organs are similar to neurotransmitters. In fact, many such chemicals, including norepinephrine and the endorphins, act both as hormones and as neurotransmitters. However, whereas neurons secrete neurotransmitters into synapses, endocrine organs put their chemicals into the bloodstream, which carries them throughout the body. In this way, endocrine glands can stimulate cells with which they have no direct connection. But not all cells receive the hormonal message. Hormones, like neurotransmitters, can influence only those cells with receptors capable of receiving them (McEwen, 1994). Organs whose cells have receptors for a hormone are called *target organs.*

Each hormone acts on many target organs, producing coordinated effects throughout the body. For example, when the sex hormone *estrogen* is secreted by a woman's ovaries, it activates her reproductive system. It causes the uterus to grow in preparation for nurturing an embryo; it enlarges the breasts to prepare them for nursing; it stimulates the brain to enhance interest in sexual activity; and it stimulates the pituitary gland to release another hormone that causes a mature egg to be released by the ovary for fertilization.

The brain has ultimate control over the secretion of hormones. Through the hypothalamus, it controls the pituitary gland, which in turn controls endocrine organs in the body. The brain is also one of the target organs for most endocrine secretions. Thus, the endocrine system typically involves four elements: the brain, the pituitary gland, the endocrine organ, and the target organs, which include the brain. Each element in the system uses hormones to signal the next element, and the secretion of each hormone is stimulated or suppressed by other hormones.

For example, in stress-hormone systems, the brain controls the pituitary gland by signaling the hypothalamus to release hormones that stimulate receptors of the pituitary gland, which secretes another hormone, which stimulates another endocrine gland to secrete its hormones. Specifically, when the brain interprets a situation as threatening, the pituitary releases the hormone *ACTH,* which causes the adrenal glands to release the hormone *cortisol* into the bloodstream. These hormones, in turn, act on cells throughout the body. The combined effects of the adrenal hormones and the activation of the sympathetic system result in a set of responses called the **fight-or-flight syndrome,** which, as mentioned earlier, prepares the animal or person for action in response to danger or other stress. The heart beats faster, the liver releases glucose into the bloodstream, fuels are mobilized from fat stores, and the organism usually enters a state of high arousal.

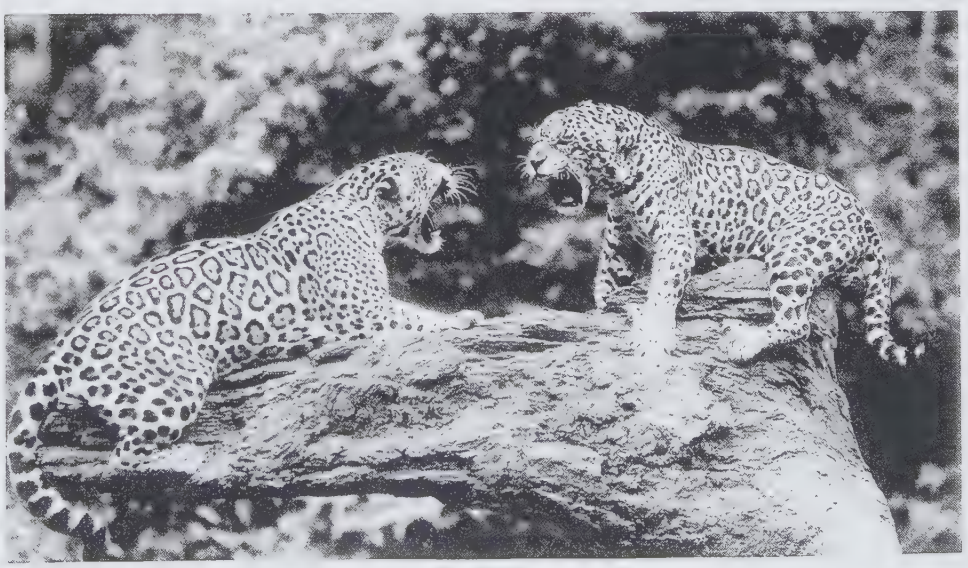
However, the hormones also provide feedback to the brain as well as to the pituitary gland. Just as a thermostat and furnace regulate heat, this feedback system regulates hormone secretion so as to keep it within a certain range. If a hormone rises above a certain level, feedback about this situation signals the brain and pituitary to stop stimulating its secretion. Thus, after the immediate threat is over, feedback about cortisol's action in the brain and in the pituitary terminates the secretion of ACTH and, in turn, cortisol. Because the feedback suppresses further action, this arrangement is called a **negative feedback system.**

As an additional example of the effect of hormones, consider another class of sex hormones, the *androgens.* Pituitary hormones cause the male sex organs to secrete androgens such as testosterone, stimulate the maturation of sperm, increase a male's motivation for sexual activity, and increase his aggressiveness (Rubinow & Schmidt, 1996). The relationship between androgens and aggressiveness in humans is complicated and controversial; we discuss it further in Chapter 18.

Can differences between hormones in men and women account for some of the differences between the sexes? During development and in adulthood, sex differences in hormones are relative rather than absolute: Both men and women have androgens and estrogens, but men have relatively higher concentrations of androgens whereas women have relatively higher concentrations of estrogens. There is plenty of evidence from animal studies that the presence of higher concentrations of androgens in males during development creates both structural sex differences in the brain and sex differences in adult behaviors. Humans, too, may be similarly affected by hormones early in development. For example, studies of girls who were exposed to high levels of androgens before birth found that they were later more aggressive than their sisters who had not

Hormones at Work

The appearance of a threat activates a pattern of hormonal secretions and other physiological responses that prepare animals and humans to either confront or flee the danger. This pattern is known as the "fight-or-flight syndrome."



had such exposure (Berenbaum & Resnick, 1997). And, as shown in Figure 1.4 on page 11, MRI studies have revealed specific regions of the brain that function differently in men and women. However, such sex differences may not be simple, inevitable, or due to the actions of hormones alone. For example, just the act of practicing finger-tapping for ten minutes a day over several weeks can create alterations in the activity of the motor cortex that are detectable with functional MRI (Karni et al., 1998). Most likely, the sex differences we see in behavior depend not only on hormones but also on complex interactions of biological and social forces, as described in the chapter on motivation and emotion.

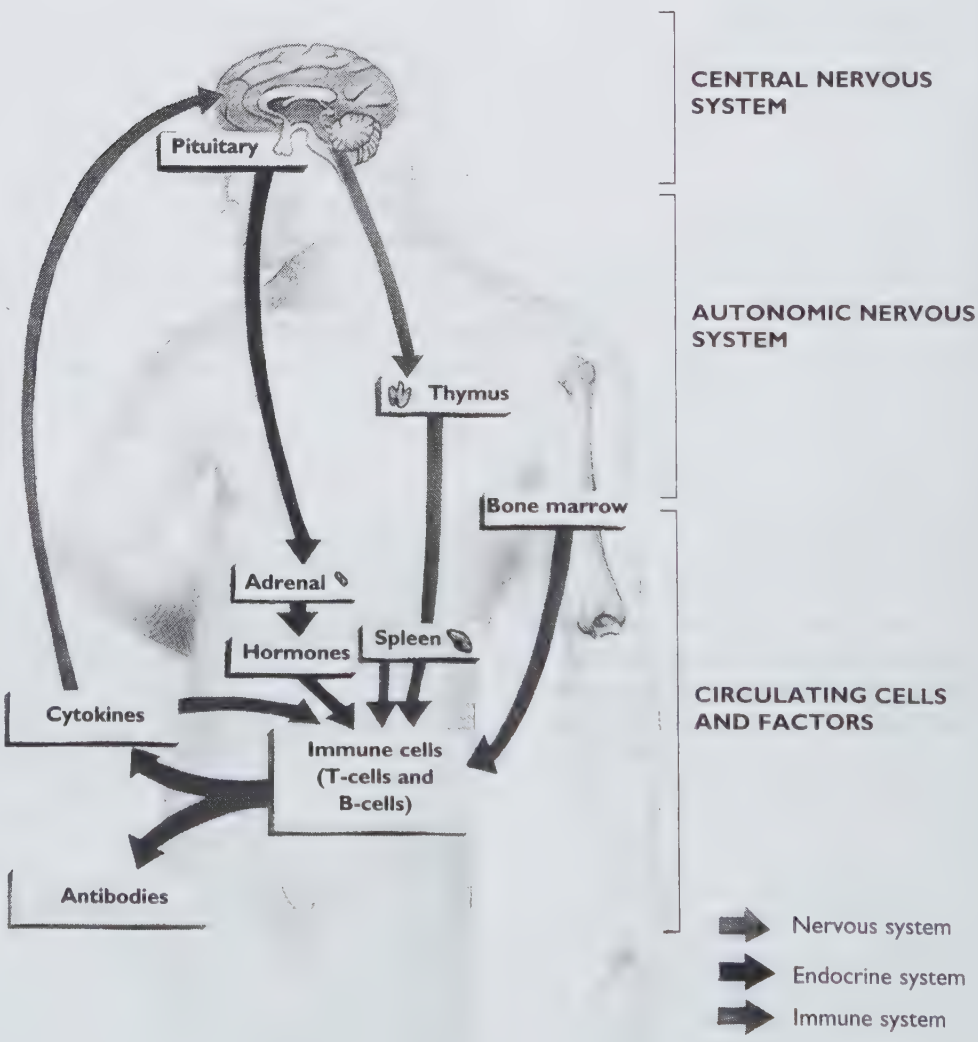
THE IMMUNE SYSTEM: LINKING THE BRAIN AND THE BODY'S DEFENSE SYSTEM

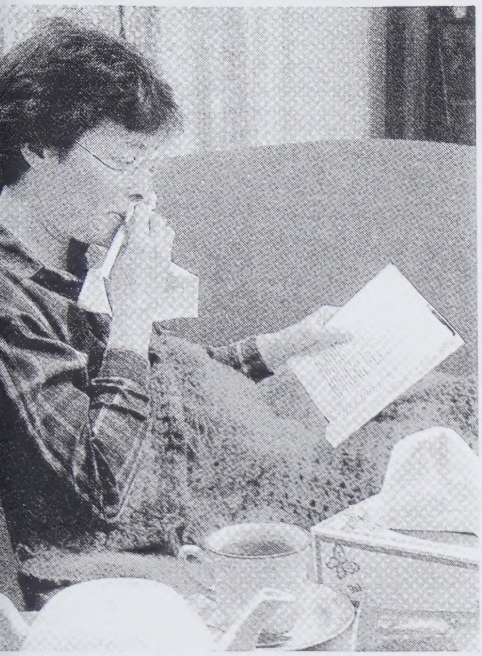
Like the nervous system and endocrine system, the **immune system** serves as both a sensory system and a surveillance system. It monitors the internal state of the body and detects unwanted cells and toxic substances that may invade the body. It recognizes and remembers foreign substances, and engulfs and destroys foreign cells as well as cancer cells. Individuals whose immune system is underresponsive—AIDS patients, for example—face certain death from invading bacteria or malignant tumors. However, if

FIGURE 3.25

Relations Among the Nervous System, Endocrine System, and Immune System

All three systems interact and influence one another. The nervous system affects the endocrine system by controlling secretion of hormones via the pituitary gland. It also affects the immune system via the autonomic nervous system's action on the thymus gland. The thymus, spleen, and bone marrow are sites of generation and development of immune cells. Hormones of the pituitary gland and adrenal gland modulate immune cells. Immune cells secrete cytokines and antibodies to fight foreign invaders; cytokines are blood-borne messengers that regulate development of immune cells and also influence the central nervous system.





LINKAGES

The Common Cold

The interaction of the immune system and the nervous system is exemplified by some of the symptoms associated with routine "sickness." Sleepiness, nausea, and fever are actually a result of chemicals released by immune cells, collectively called *cytokines*, which act directly on the brain through specific receptors (Pousset, 1994).

the system becomes overzealous, the results can be just as devastating: Many diseases, including arthritis and cancer, are now recognized as **autoimmune disorders,** in which cells of the immune system attack normal cells of the body, including brain cells.

The immune system is perhaps as complex as the nervous system, and it contains as many cells as the brain. Some of these cells are in identifiable organs such as the thymus and spleen, whereas others circulate in the bloodstream and enter tissues throughout the body (see Figure 3.25). In Chapter 13, on health, stress, and coping, we describe a few of the immune system's many cell types and how they work.

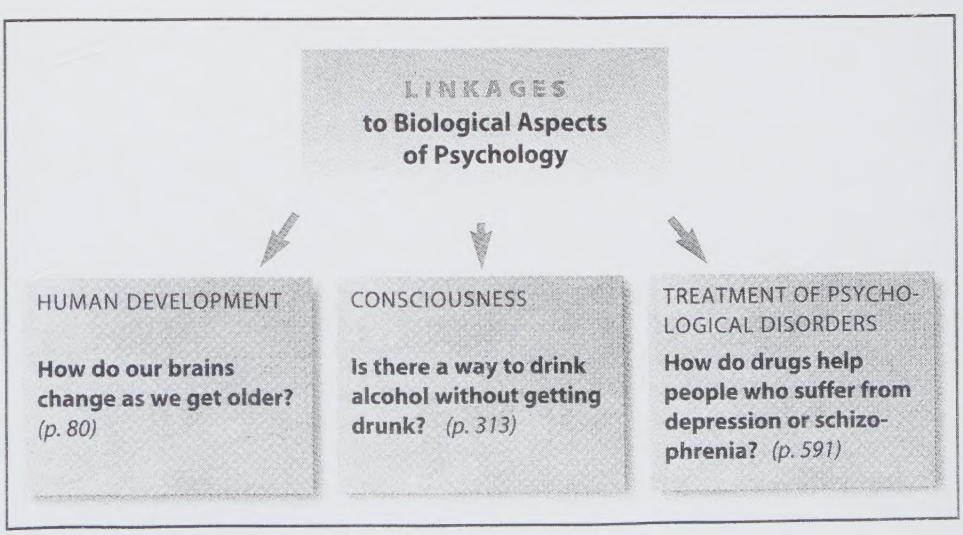
The nervous system and the immune system were once thought of as completely separate (Ader, Felten, & Cohen, 1990). However, five lines of evidence suggest important interactions between the two.

First, stress can alter the outcome of disease in animals, and, as discussed in Chapter 13, there is growing evidence that psychological stressors also affect disease processes in humans (McEwen, 1998). Second, immune responses can be "taught" using some of the principles of learning outlined in Chapter 6. In one study with humans, for example, exposure to the taste of sherbet was repeatedly associated with an injection of epinephrine, which increases immune system activity. Subsequently, an increase in immune system activity could be prompted by the taste of sherbet alone (Buske-Kirschbaum et al., 1994). Third, animal studies have shown that stimulating or damaging specific parts of the hypothalamus, the cortex, or the brainstem that control the autonomic nervous system can enhance or impair immune functions (Felten et al., 1998). Fourth, activation of the immune system can produce changes in the electrical activity of the brain, in neurotransmitter activity, in hormonal secretion, and in behavior—including "sickness behavior" (Elmquist, Scammell, & Saper, 1997). Finally, immune cells produce some of the same substances as those used by the brain as neurotransmitters and by the endocrine system as hormones (Weigent & Blalock, 1997). These include endorphins, which are the body's natural painkillers, and ACTH, the hormone that stimulates the adrenal gland to produce glucocorticoids during stress.

These converging lines of evidence point to important relationships that illustrate the intertwining of biological and psychological functions, the interaction of body and mind. They highlight the ways in which the immune system, nervous system, and endocrine system—all systems of communication between and among cells—are integrated to form the biological basis for a smoothly functioning self that is filled with interacting thoughts, emotions, and memories and is capable of responding to life's challenges and opportunities with purposeful and adaptive behavior.

LINKAGES

As noted in Chapter 1, all of psychology's many subfields are related to one another. Our discussion of developmental changes in the brain illustrates just one way in which the topic of this chapter, biological aspects of psychology, is linked to the subfield of developmental psychology (Chapter 12). The Linkages diagram shows ties to two other subfields as well, and there are many more ties throughout the book. Looking for linkages among subfields will help you see how they all fit together and better appreciate the big picture that is psychology.


LINKAGES
to Biological Aspects of Psychology
HUMAN DEVELOPMENT
How do our brains change as we get older? (p. 80)
CONSCIOUSNESS
Is there a way to drink alcohol without getting drunk? (p. 313)
TREATMENT OF PSYCHOLOGICAL DISORDERS
How do drugs help people who suffer from depression or schizophrenia? (p. 591)

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